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NOTICE

Medical Education and The Cost of Medical Care.

On this there has been so much written and published in the *A. M. A. Journal* recently that the General Secretary will be pleased to loan the necessary issues of this Journal to any members of the Society who desire to study the subject. You pay the expressage one way unless you come to the office for them. There is so much in the April 1st issue that it is impossible in our limited space to give any satisfactory abstract.

The Secretary also has for disposal *bound volumes* of the American Medical Association *Journal* for 1925-26-27-28, two volumes for each year. If any practitioner would care to add one or two of these volumes to his library he can have the same by paying expressage only. Drop a line to the Secretary, Room 410, Roy Building, Halifax.

*Metabolism of Calcium in Medicine

By J. W. REID M.D., M.R.C.P. (Lond.)

IN recent years the metabolism of calcium has been creating considerable interest, a great deal of experimental work has been done and the usual mass of literature accumulated.

Certainly the subject covers a wide field, and it will be impossible for me to do more than deal briefly with the interesting problems and diseases with which it is associated.

It will be necessary to make some mention of the normal metabolism of calcium before proceeding to a consideration of the factors which may influence it in disease.

The average calcium requirement of a growing child is approximately 1.0 gm. per day. This quantity is contained in a little over a quart of milk, and should be taken by all children throughout the growth period. The requirement of an adult is about one half of this and Sherman states that the average adult diet is more likely to be deficient in this element than in any other.

Source: The only exogenous source of calcium is of course the food, and those articles which are richest in this element are milk, cheese, green vegetables, meat, blood and nuts. Milk is high in both calcium and phosphorus, while meat is relatively poor in calcium and high in phosphorus.

The principle and probably the only endogenous source of Ca. is the bones, and it is important in this regard to remember that Ca. once laid down in the bones is no more permanent than a modern marriage, and that in health Ca. is being constantly removed from bone and new Ca. deposited as long as life goes on.

Absorption: Ca. is absorbed from the gut as the acid Ca. Phosphate and probably the greatest single factor controlling absorption is the anti-rachitic Vit. D. Other factors which may be operating are the acidity of the diet, the presence in it of an excess of P., and an overabundance of poorly assimilated fat. About 60% of ingested Ca. is normally absorbed.

Excretion: Ca. is excreted as an insoluble calcium phosphate mostly in the large bowel and to only a slight extent in the urine. The average faecal excretion is about .6 gm and the urinary .19 gm per day.

In the presence of an excess of dietary P., so much Ca. is required to combine with the P. for excretion that an absolute Ca. deficiency is produced.

Functions of Ca.: The chief function is, of course, the formation of bone, but it also plays an important part in the clotting of milk and blood, in the activation of trypsinogen, in the irritability of nerve tissue and prevention of tetany, in the permeability of blood vessels and in the contractility of the heart.

*Read before Halifax Medical Society.

Ca.—Calcium.

P.—Phosphorus.

Vit.—Vitamine.

Ca. decreases the irritability of nerve tissue, decreases the clotting time of blood, decreases the permeability of blood vessels and increases the contractility of heart muscle.

Occurrence in the blood: Ca. occurs in the blood in two forms 1. a diffusible and 2. an indiffusible form. The Ca. of the spinal fluid represents the diffusible form, the choroid plexus acting as a dialysing membrane. It amounts to roughly one half of the total serum Ca. It is this diffusible Ca. and particularly that which readily gives up its Ca. ions, which plays the most important part in body functions.

It appears that a reduction of diffusible Ca. can occur in the presence of a normal total serum Ca., a finding used as the rationale for Ca. therapy in various clinical conditions.

Ca. is present in the blood as the relatively insoluble and inactive Tri Calcium Phosphate. In order that Ca. ions may be available for body use, this must be converted into the more soluble calcium hydrogen phosphate (CaHPO_4). This is accomplished by the carbonic acid of the plasma, and it is obvious that any state which tends to lower the carbonic acid tension and produce an alkalaemia will lower the blood Ca. On the other hand acidaemia tends to raise the Ca.

The normal blood Ca. varies between 9 and 11 mgms% and there are four factors which tend to maintain this constant level. These are 1. Vitamine D. 2. Parathyroid Glands 3. Blood Reaction and 4. The Ca:P ratio of the diet.

ANTI-RACHITIC SUBSTANCE

One of the factors of great importance in maintaining the level of the blood Ca. is the antirachitic substance Vit. D. This was discovered in feeding experiments on rachitic rats and was found to be present in greatest concentration in cod liver oil and present in smaller amounts in egg yolk, beef suet and lard. Later it was found that it could be produced in other oils and food by exposure to ultra violet light. It can be synthesized in the skin by the action of ultra violet light, or ordinary sunlight.

The substance activated by light is ergosterol, contained in small amounts in impure cholesterol and obtained commercially from yeast. This is irradiated and tested for potency on rachitic rats. It is then put in solution in oil or alcohol in such quantity as to make it 100,250,500 etc. times as potent as cod liver oil, and expressed as 100D etc. It is an extremely active substance, the most minute doses will protect rats from rickets and 2 to 4 mgs daily will cure the most active disease.

Irradiated ergosterol has the specific effect of raising the blood Ca., but its means of accomplishing this has hitherto been the cause of much speculation. Bauer in recent experimental work on this subject came to the conclusion that its primary function was to increase the absorption of Ca. from the gut, and that it had no effect whatever in stimulating the parathyroid glands or in preventing the excretion of Ca. into the bowel, as had been suggested by some. He found that in the normal the administration of 5mg daily produced no effect whatever, 30mg increased absorption, lowered total excretion and left but a small positive Ca. balance. There being no need for Ca. in the normal, very little was retained. If, however, the bones were deficient in Ca. retention was more marked, and if there existed a Ca. deficiency in the blood as well as the bones nearly all the Ca., was retained for bone deposition.

He also showed experimentally that therapeutic doses of ergosterol or its effects are not transmitted through the placenta but can be through the milk, so that its administration to lactating women is a potent weapon in the prophylaxis of rickets.

Shelling, working with ergosterol to determine the direction of flow of Ca., found that in therapeutic doses it would raise the level of Ca. in the blood, and that the flow was to the bones. On the other hand he found that large doses of ergosterol caused dissolution of the matrix of bone, and a flow of Ca. from bone to blood, to be excreted in the stools.

It is natural to suppose that a substance so potent may be poisonous and such is certainly the case. Solutions irradiated in oil are less toxic than those in alcohol and the latter remains toxic even after the vit. D has been destroyed by over irradiation.

Shelling's experimental work on hypervitaminosis brought to light several facts of importance in the therapy of certain states of disordered Ca. metabolism. He found that after a few days on high dosage the animals lost appetite, weight and strength, and developed such gastrointestinal symptoms as diarrhoea. The blood Ca. was raised and at autopsy the bones were found to be decalcified and marked metastatic calcification was found in blood vessels, kidneys intestines and lungs. He found that he could increase this calcification by increasing the amount of P. in the diet, and the application of this finding to the treatment of clinical rickets, where calcification is much needed, is obvious, and will be referred to later.

This fact has an application also in those cases of chronic nephritic with retention of P., and will be referred to again in considering renal rickets.

Toxic manifestations from overdosage with ergosterol have been reported in children, but the potency must have been unknown and extremely high, since the child would have to be fed several thousand times the therapeutic dose of the standardized product for twenty years to produce any of these toxic episodes or metastatic calcification.

DISEASES ASSOCIATED WITH THE ANTIRACHITIC FACTOR

Infantile rickets is certainly the most common disturbance of Ca. metabolism associated with vit. D. It has been said that 80% or more of all children living in northern climates are affected with it to a greater or less degree. Certainly it is becoming less severe and may eventually disappear under the barrage of prophylactic propaganda so widespread in baby clinics at the present time.

It is a disease due to lack of vit. C. in the diet and is characterized by a low blood Ca. and P., by bones which are deficient in calcium phosphate, and by deformities and systemic manifestations resulting from these abnormalities.

Shelling postulates three conditions which can cause rickets:—1. Absence of vit. D., 2. Low Ca. diet, and 3. High P., normal or low Ca. diet.

Sampson Wright discusses three factors in relation to the etiology of rickets:—Vit. D., Ca. :P ratio of food and ultra violet light.

Certainly a diet which contains no Vit. D. will regularly produce this disease, but it will also appear on diets in which D is present in adequate amounts, but in which there is an over abundance of cereals, and it has been shown that cereals, particularly oatmeal, have a definitely antagonistic action to vit. D. and are therefore in themselves rachitogenic substances. This finding no doubt accounts for the parenthetoid legs so commonly seen in otherwise hardy Scotsmen.

The making of such a diet acid will prevent the appearance of rickets, presumably by aiding the absorption of Ca.

Disturbance of the Ca: P ratio in the diet will produce rickets by calcium deprivation. Thus since P must be excreted with Ca., a diet high in P will leave no Ca. for absorption. An adequate supply of Vit. D will overcome any such disturbance.

Pearson and Wyllie attribute the development of rickets in children to no single factor, but to a group of circumstances operating together:—

The vit. deficient diet of mothers during the lactation period.

Too long breast feeding.

A constitutional predisposition in the child.

High cereal diets.

Absence of sunlight.

Absence of vit. A and B as well as D.

The symptoms of rickets are well known, appearing usually between the 6 and 18 month, rarely as early as the 3. It usually subsides, even without treatment, by the third year. Rickets is perhaps not diagnosed as often or as early as it should be, and too many mild tetanic symptoms are overlooked as bad temper, when a closer scrutiny would make obvious the diagnosis and the institution of proper treatment prevent the deformities, which in later life may be mildly or greatly disabling.

There are two differing types in which it is prone to occur. The one, a small group of bright, precocious and nervous children, with good color and slender build, and the larger group of pale, fat and mentally dull ones which constitute the rachitic type.

Weakness and poor tone of muscle may be an early symptom leading to "lateness."

The essential bone changes are enlargement of the centres of ossification due to the heaping up of uncalcified osteoid tissue and the bending of the weak bones. The square head and the rickety rosary are well known early changes. In later or more severe cases any of the long bones may be greatly deformed, and spinal curvature, funnel or pidgeon breast and Harrison's sulcus make their appearance.

The head sweating, digestive, respiratory and other systemic upsets are due simply to lowered vitality and added infection. The nervous symptoms are directly the result of the lowered blood Ca. These may be simply irritability, but latent, mild or severe tetany may be present with laryngospasm or convulsions.

In the diagnosis the observation of the child's surroundings together with the symptoms will suffice to make the condition known in the majority of instances. The use of the X-ray, however, will make the bone changes obvious a month or six weeks before they can be recognized clinically. This means also is a valuable method of checking progress after the institution of treatment.

The prophylaxis entails a careful consideration of all the known etiological factors—the administration of an adequate diet and ergosterol to the nursing mother, the early addition of fruit and vegetable juices to the child's diet, exposure to sunlight, and the curtailment of excessive cereals and clothing.

Treatment of the active disease demands the institution of the prophylactic regimen together with the administration of some potent anti rachitic

substance such as cod liver oil in dram doses t.i.d., or irradiated ergosterol, and exposure to sunlight—real or artificial. As Shelling showed the addition of P. to greatly increase calcification in the presence of ergosterol, the administration of some phosphate to these children will markedly hasten the process of healing. This is given in the form of anhydrous sodiumphosphate in doses of seven grains six times daily. It is essential to give ergosterol for some days before starting the phos. as otherwise the calcium may be greatly reduced and tetany result.

Rest in bed will correct most of the deformities, but late or severe cases may require orthopaedic treatment.

ADOLESCENT RICKETS.

This type occurs in older children and adolescents. In mild forms it is not uncommon and is prone to occur in the serious type of child who works hard at home and at school and whose hygienic life is below normal. They are as a rule pale, intense and studious. They may complain of easy fatigue, back pain and weakness of the legs so that the knees sag and the ankles turn when they attempt to run or play games.

There are usually present some of the deformities of infantile disease, and these exaggerate the easy fatigue of the hypotonic muscles and thus aggravate the symptoms.

Probably most of these cases represent a recrudescence of rickets as it existed in infancy, brought on by the added strain of adolescence and hard work. Certainly in these children diet and sunlight play a similar part to that which they take in the infantile disease.

COELIAC RICKETS.

Coeliac disease itself is uncommon, nor does rickets occur by any means in every case. But bone deformities and fractures are not infrequent complications, and symptoms of tetany—mild or severe are seen in some cases.

The rickets in this disease is undoubtedly an expression of disordered exogenous Ca. metabolism, bound up in some way with the inability to absorb fat. Whether the primary factor is an inactivation of vit. D or an inability to absorb Ca. is unknown.

Certainly the bone changes are identical with rickets, and the rachitic symptoms yield to Ca., sunlight and vit. D. It is essential owing to the disturbed fat metabolism to give an ergosterol product that has been irradiated in alcohol rather than oil, and to be careful of overdosage because of its greater toxicity.

RENAL RICKETS.

Dwarfism is a feature of chronic nephritis in children, but this simple stunting of growth is not due to rickets, although true rachitic changes may be superimposed in some cases.

This type of disease is not a real rickets, in so far as its incidence concerns, not the rachitogenic factors as we know them in the infantile disease, but a disturbance of the endogenous metabolism of Ca.

As previously mentioned a chronic nephritis may be associated with an inability to excrete P. which piles up in the blood. In order that this P. may be excreted through the bowel, such large quantities of Ca. are required that the blood soon becomes depleted and the storehouse in the bones called upon.

Since Shelling has shown that a high blood P. is conducive to metastatic calcification, it is obvious that these patients, so prone to arterial damage anyway, are likely to develop an intense arterial calcification.

It follows therefore that in the treatment of these cases of renal rickets the diet should be high in Ca., low in P., and no ergosterol given.

OSTEOMALACIA.

This is a disease of bone extremely uncommon in this country, but one that is endemic in China and India. The incidence is mostly in women of child-bearing age and is prone to occur during pregnancy or lactation.

Previously ascribed to disease of the ovaries, and treated by removal of these organs, it is now known to be a form of adult rickets, with etiological factors similar to those of the infantile disease.

The symptoms appear during pregnancy with pain in the back and thighs and deformity of bone.

An adequate diet, cod liver oil and sunlight are curative.

HUNGER OSTEOPATHY.

This disease of war, famine and malnutrition, was commonly seen in Germany and Austria during the later part of the great war.

The incidence was greatest among the adolescents and the elderly, principally those showing old evidence of infantile rickets.

The symptoms appeared in the fall and winter with pain in the sacrum, ribs and tarsus and edema of the legs. All the bones became tender and walking difficult or impossible.

As in most of the previous conditions cod liver oil was specific.

HYPERVITAMINOSIS.

All the diseases mentioned so far have been associated with an absence of Vit. D. Curiously enough the only one in which a possible hypervitaminosis is suggested is Pellagra.

Turner, working among pellagrins in New Orleans was struck by the marked contrasts between Pellagra and Rickets. The latter for instance became active in the winter months on a diet high in cereals and low in fat and was cured by sunlight. The former became active in the summer on a diet low in cereal and high in fat and was made worse by sunlight.

He conceived the idea that since the diets of these pellagrins was mostly pork fat and cottonseed oil—both high in sterols which could be stored in the skin—a hypervitaminosis might be produced by the action of summer sunlight.

He investigated the blood Ca. of all his patients and found it raised in nearly all cases, being as high as 13 or 14% in some. Those with the highest blood Ca. values had the most severe nervous and mental symptoms.

He does not claim that Pellagra is a hypervitaminosis D., but calls attention to his suggestion and leaves the subject open for further study.

THE PARATHYROID GLANDS.

These are the most important endogenous factor controlling the level of the blood Ca.

They are normally four in number, and occur usually in relation to the superior and inferior thyroid arteries. They may however, be found in various situations—deeply imbedded in the thyroid gland, behind the trachea or even in the mediastinum.

They are yellow brown in color, about the size of a wheat kernel or small bean, and may be of any shape.

Removal of these glands experimentally in animals or inadvertently in man, produces a profound change in the serum ca. level and a chain of symptoms chiefly tetanic and convulsive in nature.

Cattell of Lahey Clinic states that one remaining parathyroid is sufficient to prevent permanent tetany. On the other hand the removal of one gland may produce mild and transient tetany, while with the loss of three or four the symptoms may be severe and permanent.

In that clinic tetany is a rare complication of primary thyroidectomies, but occurs more frequently after second operations. It is the practice there to examine every gland in the operating room after removal and immediately transplant into the sternomastoid muscle any parathyroid tissue found in it.

The active principle of these glands was obtained by Hansen and Collip, and like ergosterol, has the specific action of raising the level of the blood Ca. It is standardized in units—one unit being $\frac{1}{150}$ the amount needed to raise the Ca. level of a parathyroidectomized dog 1-mg%.

Its action however, differs from that of ergosterol in so far as it raises the level of Ca. not by increasing absorption from the gut but by a mobilization from the bones. The injection of 55 units of Collips parathormone daily for several days, will suffice to raise the level from 10 to 14 mg.%.

Overdosage with this active principle may occur in man either spontaneously as a result of hyperplasia of the glands or by the administration of excessive doses of the extract.

The result of overdosage is hypercalcaemia, and it is made manifest by loss of appetite, dullness, drowsiness, muscular weakness and circulatory failure. The blood Ca. may be as high as 20 mgs.%.

Prolonged overdosage may give rise to metastatic calcification in kidneys, heart and vessels, lungs and intestines, and cause such a depletion of Ca. from the bones that spontaneous fracture may occur.

The thyroid also exerts some influence on the metabolism of Ca., possibly by stimulation of the parathyroids, and leading in some cases of exophthalmic goitre to decalcification of bones and spontaneous fracture.

DISEASES OF PARATHYROID DYSFUNCTION.

Hypoparathyroidism is a rare disease characterized by the symptoms of tetany. It most often occurs following removal of the glands at operation, but may occur spontaneously, being in this latter respect analogous to myxedema.

It is usually of a mild type and yields to Ca. by mouth, but in some cases being very severe, resisting all forms of treatment and ending in death from asphyxia, convulsions or exhaustion.

The blood Ca. may fall as low as 5 or 6 mg.% and the P. rise to 7 or 8 mgs.%. Mild symptoms only may be present, such as muscle twitching or carpedal spasm, but in severe cases bronchial and laryngeal spasm, hyperpnoea, convulsions and loss of consciousness may occur. Chronic cases may develop cataract.

Treatment: Prophylaxis requires care in sparing the glands at operation, and immediate transplantation of any removed. The mild cases may be treated by calcium chloride or gluconate by mouth, together with large quantities of milk, hydrochloric acid and ergosterol.

More severe cases require intravenous injections of Ca. chloride, 20 c.c. of a 5% sol. daily. Parathormone may be injected intramuscularly in doses of 50—100 units daily, or large doses of thyroxin may be given intravenously.

HYPERPARATHYROIDISM.

Generalized Osteitis Fibrosa of Von Recklinghausen was first described in 1891, and is now known to be due to hyper function of the parathyroid glands.

It is characterized by a high blood Ca., a high urinary excretion of Ca., by bone pain, deformities and fractures, and in some of the cases by a palpable tumor in the neck.

It is an uncommon disease, six cases being admitted to the London Hospital in 1930, and occurs twice as frequently in women as in men, usually appearing between the ages of 30 and 55.

The commonest symptoms are bone pain, deformities and fractures but occasionally the presenting symptoms may be haematuria, renal colic, weakness of muscles or a palpable tumor in the neck.

In the diagnosis the blood chemistry will show a Ca. level of 15mg. % or more and a blood P. as low as two or three %. There is a great increase of the urinary Ca. excretion.

X-Ray examination will show a diminished density of all the bones together with the presence of cysts and possible fractures. Renal calculi are often present and may cause severe kidney damage. Metastatic calcification may be present in other soft tissues.

Course: If untreated the disease grows steadily worse, until increasing pain and fractures leave the patient bedridden where he will eventually die from exhaustion, renal insufficiency or intercurrent disease.

Treatment: Palliative treatment consists in rest, a low Ca., high P. diet and small doses of ergosterol.

The radical treatment consists of exploration of the neck and removal of the parathyroid tumor. If no tumor is found at operation it will probably be demonstrated post-mortem in some inaccessible situation. Removal of two normal glands may be helpful.

Following removal of the tumor bone pain clears up within a day and there is great and rapid improvement in all the symptoms. The blood Ca. may remain high for a long time, but a sudden post-operative drop may occasion mild tetanic symptoms.

The next group are the:—

CONDITIONS ASSOCIATED WITH THE BLOOD REACTION.

Gastric tetany is a condition which occurs in cases of pyloric obstruction with profuse vomiting and great loss of Hydrochloric acid. The resultant alkalaemia reduces the available Ca. ions and so produces the symptoms.

The routine practice of administering sodium bicarb. solutions to patients with profuse vomiting should be discontinued, as such treatment tends only to aggravate the condition and possibly produce an attack of tetany. Such cases should be given acid in large doses, and if nothing is retained calcium chloride should be given by vein.

Gastric tetany may also occur from ingestion of large doses of alkali such as may be given in the treatment of gastric ulcer under the Sippy regime. One need only be aware of the cause to cure it.

Another source of the tetany of alkalaemia is the extreme hyperpnoea seen sometimes in hysteria and as a sequel to encephalitis lethargica. Quanti-

ties of carbon dioxide are washed out of the lungs producing a marked lowering of carbon dioxide tension, alkalaemia and tetany.

CA: P. RATIO IN THE DIET.

Marked disturbance of this ratio will result in disordered Ca. metabolism, and we find in children and adults a group of uncommon diseases in which this disturbance is marked.

In children we have seen Coeliac disease as a cause of rickets, so also in adults we find a group of fatty diarrhoeas from various or unknown causes, associated with tetany and bone changes.

The fatty stools of bile duct obstruction and pancreatic disease are never complicated with tetany, probably because they do not go on for a long enough time.

Fatty stools with tetany do occur in such diseases as tuberculous peritonitis, tropical sprue, and less well defined conditions which have been classified as adult coeliac disease or non tropical sprue.

All these cases present the clinical phenomena of frequent large fatty and offensive stools, with wasting and weakness and a blood showing low values for both Ca. and P.

The factors operating to produce this marked disturbance of Ca. metabolism may be either:—

Non Absorption due simply to the diarrhoea.

Ca. not absorbed because of Ca. soap formation.

Interference with vit. D. utilization secondary to poor fat absorption.

In the treatment of these conditions the chief consideration is a fat poor diet, with the addition of Ca., P. and ergosterol.

CALCIUM IN THERAPUTICS.

Calcium may be said to be specific in the acute toxic episodes of lead poisoning, in tetany and in colic.

Its use in tetany has already been considered.

In acute lead poisoning its efficacy is interesting, and arose from the observation of lead storage in the bones, and a study of the absorption, storage and excretion of lead, which showed it to parallel very closely that of calcium.

It was found that in acute cases the administration of Ca. hurried the storage of lead in the bones, thus removing it from the blood and giving prompt relief to the toxic symptoms.

So in chronic lead poisoning it was found that anything which would produce a mobilization and excretion of Ca. from the bones would also produce an excretion of lead.

In the treatment of the more acute toxic manifestations such as colic or encephalopathy, prompt storage of lead is indicated and this is obtained by intravenous Cal. chloride and a milk diet. The effect is dramatic—lead colic is relieved at once and the symptoms of encephalopathy promptly relieved.

When acute symptoms have subsided, deleading can be begun by the cautious administration of ammonium chloride to produce Ca. and lead excretion. A low Ca. diet is given together with ammonium chloride in doses of 15 grains six or eight times daily, this is continued for two or three weeks and the excretion of lead estimated in seven day specimens of urine.

Should any toxic lead effects appear the ammonium chloride must be stopped at once and calcium substituted immediately.

The dramatic effects of Ca. in relieving lead colic has led to its use in other types of colic and pain. Thus it was found to relieve the pain of gall bladder and renal colic more promptly than any other drug, not excepting morphine.

This ability of Ca. to relieve the pain of renal colic has led to its use in the differential diagnosis of those puzzling cases where either the appendix or stone may be at fault. Ordinarily if the pain is relieved the attack is due to renal colic and may be safely left for observation. It must be remembered in the application of this test, that in the obstructive type of appendicitis with colicky pain due to violent contractions of the appendiceal muscle relief may be obtained by Ca. In these cases the early appearance of Brittain's sign may be a deciding factor.

Ca. has also a place in the general treatment of pain, and Grove and Vines, writing in 1922 mentioned its use in inoperable carcinoma, not only in relieving the pain, but in producing a healthier and happier mental attitude.

More recently Belan, writing in the *A. Jour. Surg.* reports a series of cases of this kind treated with Ca., and his results were very favorable indeed, and similar to those of the earlier workers.

He was able in some cases to totally dispense with morphine and the feeling of buoyancy and well being persisted almost to the end.

He used Ca. gluconate by various routes and ergosterol.

USE OF PARATHORMONE IN HAEMORRHAGE.

Ca. has for many years been used where excessive bleeding was present or feared. Thus its use in jaundice and uterine conditions is well known.

Cantarow and Gordon tried injections of Parathormone in 347 cases of haemorrhage from various sources, and found it a useful procedure, particularly in bleeding of the slow oozing type.

Their cases included haemoptisis, haematemisis, and geneto-urinary bleeding, and they found it to definitely decrease the clotting time in cases of jaundice. In haemoptisis it was frequently successful where rest and sedation failed. In the haemorrhage of blood diseases, no good results were obtained.

The method was to inject ten or fifteen units of Parathormone every thirty-six hours for two or three doses. No effect is produced until three hours after injection.

Continued use of large doses in cases which do not respond quickly is productive of more harm than good.

The Ca. treatment of asthma and other allergic states such as urticaria, vasomotor rhinitis etc. seems to stand on thin ice and appears to be very much in disfavor at the present time. Its usefulness in urticaria is limited to those cases in which dermographism is present, and here it will be of great benefit. In the absence of this sign, its routine inclusion in the treatment of urticaria is useless.

CHRONIC ULCERATION.

Calcium has recently been advocated in the treatment of chronic ulcerative colitis. Its usefulness in tuberculous ulcers of the intestine has long been known and attributed to its inhibitory action on peristalsis.

Haskell and Cantarow treated 13 cases of ulcerative colitis with Ca. and parathormone—the rationale, in their opinion, resting on its control of one or more of the following pathological states:—

Parathyroid dysfunction.
Nutritional change in the tissues.
Spastic colon and
Haemorrhage.

Their plan of treatment was to give:—

A cellulose free, non irritating diet.
Bellanonna and kaolin.

Ca. gluconate, Ammon. chlor. and Parathormone.

The Ca. gluc. was given in doses of one dram t.i.d. three or four hours after meals, together with twenty grains of ammon. chlor. in capsule.

Parathormone was given in doses of 20 to 30 units every 48 to 72 hours. Early cessation of bleeding and relief of spasm were the most marked features of this treatment.

Of the 13 cases so treated, eight were cured on courses lasting from four to eight weeks. Cure was judged by freedom from symptoms and a return of the bowel to normal appearance. The cases were followed from one to two and a half years.

These results are very encouraging since previous attempts to cure this condition have met with a large percentage of failures, and it was usually a long drawn out, incapacitating and frequently fatal disease.

Dr. J. G. B. Lynch, of Sydney was in Halifax March 9th-10th. Like a good member of the Medical Society of Nova Scotia he early made an appointment with the General Secretary. Dr. Lynch was for many years 1911-1927, Secretary-Treasurer of the Cape Breton Medical Society, and readers of the BULLETIN may expect in the near future one or more articles of interest to the profession, referring, in particular, to some phases of the operations of the Workmen's Compensation Board. His contribution to this subject will be duly submitted to the Annual Meeting of the Society in September next.

Dr. Lynch, however, directed our attention to another matter, that of the reports that Specialists and Consultants furnished to the general practitioner in cases referred to them. The impression seems to be that after this reference sometimes these patients are lost, as far as the general practitioner is concerned. Again little or no report is furnished to the local doctor. When such report is furnished it is lacking in the details that may mean much to the local doctor.

Now Dr. Lynch didn't say this, but the Secretary did. Now if there is nothing to this note, please knock the Secretary he will rather enjoy it.

But there is a matter which Dr. Lynch will bring to the attention of the Medical Society in an early issue of the BULLETIN and for discussion at our next annual meeting. This will bring out the attitude of the Employers towards the present attitude of the Workmen's Compensation Board. But more of this anon.

Post Partum Haemorrhage is Preventable

By E. K. MACLELLAN, M.D., C.M., F.R.C.S. (Can.),
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THE statement contained in the above title is essentially true. At least 90% of cases of haemorrhage, post partum, are due to some error in the management of the labor. In the small remaining 10%, in which haemorrhage is not due to any fault in the management of the case, haemorrhage can be anticipated. When it is anticipated, preparations can be made for its treatment which will usually prevent serious loss of blood.

Nature makes certain provisions for the control of bleeding post partum. Of these provisions, the one which is of outstanding importance is that which provides for obliteration of the uterine cavity by the muscular contraction and retraction, thus collapsing the large venous sinuses. If it were not for this "Obliteration of the uterine cavity," every woman who underwent parturition would bleed to death in a very few minutes. Factors which interfere with this mechanism are responsible for the great majority of cases of post partum haemorrhage.

Secondary Uterine Inertia.

Exhaustion of the uterine muscle is by far the greatest single factor in the production of P. P. H. This condition is "predisposed to" by (1) Disproportion, (2) Malposition, (3) Toxic states, (4) Poor assistance from auxiliary muscles, (5) Cases in which there has been ante partum haemorrhage, (6) Chloroform anaesthesia, (7) When the uterus has been overdistended as in multiple pregnancies and with polyhydramnios.

Mechanical Prevention of the Obliteration of the Uterine Cavity, is, next to secondary uterine inertia, the cause of practically all of the remaining cases of bleeding after delivery. The most common obstacle to complete obliteration is a piece of placental tissue left behind due to faulty handling of the 3rd stage of labor. Blood clot retained is probably next in order of frequency. After delivery of the placenta there is often a temporary, relative, inertia, which permits an oozing into the uterine cavity. As the clot increases in size, it dilates the cavity, opening up the venous sinuses more and more as the uterus becomes distended. If left to go on, this process can only result in disaster. More rarely, obliteration of the cavity of the uterus may be due to the presence of submucous fibroids.

Haemorrhage due to failure of the coagulation mechanism is almost unknown.

Prophylaxis of P. P. H. should start during the ante natal period. The suitable treatment of toxic conditions is important. Careful pre-natal study in order to determine relation of passenger to passage and the judicious use of Caesarian Section, will prevent the cases which are too frequently seen in

which the uterus finally becomes exhausted after hours of unproductive second stage labor. The making of a definite and accurate diagnosis of position and presentation is an absolute essential. The medical man, who is doing obstetrical practice without such routine diagnoses, is quite on a par with one who would treat a patient presenting the classical symptom complex of early tuberculosis with tonics. There is an occasional case in which the most skilled examiner will find himself with certain doubts as to the accuracy of his diagnosis. In any case of doubt, the X-ray should be resorted to. Two refinements of practice which are not absolute necessities but which give an added margin of safety are routine "typing" of blood, and testing of coagulation time.

During the progress of labor is the time when most can be done to prevent P. P. H. There should be a careful examination to check the previous diagnosis of presentation and position. During the second stage of labor, frequent rectal examinations are made to determine progress. If no progress is to be noted after one hour of hard second stage labor, the whole situation should be reviewed, and a definite plan for the further conduct of the case decided on. If the disproportion is of such a degree that successful delivery by the natural passages is unlikely, Caesarian Section should be done. If, on the other hand, further labor may reasonably be expected to result in successful termination by the natural passage, it may be allowed to proceed for a further period. The length of time which might be considered reasonable before interference, varies with different sets of circumstances, which are too numerous to consider here.

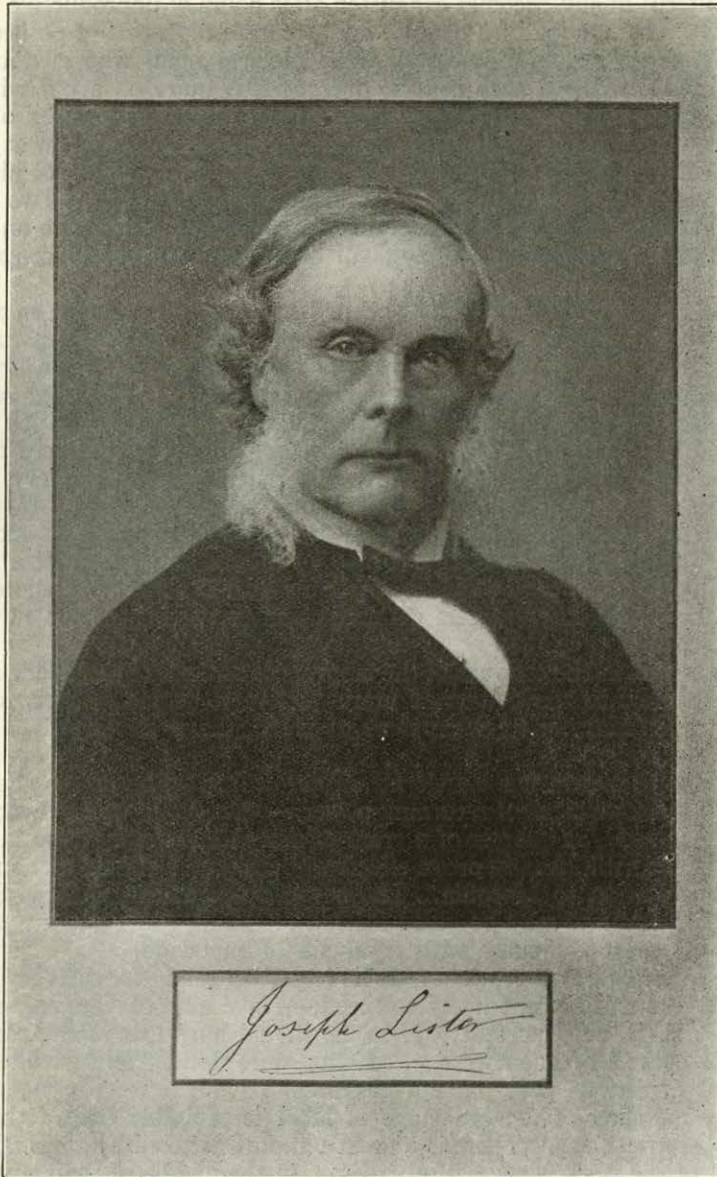
The essential in the conduct of the labor, is to anticipate secondary inertia. Render assistance to the overtaxed uterus before it begins to show signs of exhaustion. Pituitary used after signs of inertia have developed is simply "asking for trouble."

If a definite inertia has developed *do not deliver*. The uterus should be rested until it shows signs of returning power,—when as rapid a delivery is as possible is effected. A quarter of a grain of morphia given by hypo in a case of definite inertia will usually prove effective. Chloral is also of use, and may be given in addition to Morphia. The newer preparations, such as Sodium Amytal and Nembutal may be given instead of the Morphia and are perhaps less likely to cause difficulty with asphyxia of the child.

If the attendant in every labor, as he is getting ready for delivery, would ask himself,—Is this patient likely to bleed?—Have any of the predisposing causes of P. P. H. been present? If so, he should have everything ready for the prompt control of haemorrhage. If this were done, there would not be many cases of serious post partum bleeding.

Faulty handling of the 3rd stage of labor is probably one of the most frequent obstetrical sins. There is a great temptation to rush things after the major part of the work is successfully over. In the middle of the night, there is the desire to get back to bed, and, in the day time, the wish to get back to routine work, which has been interrupted by the delivery. The proper use of the Crédé method is so well known that it need not be repeated here. Routine inspection of the placenta and membranes should be invariable practice.

In all cases of haemorrhage, ante or post partum, it is well to remember the added risk of infection and the lowered resistance to it.



(1827-1912)

Joseph Lister was the second son in the Quaker family of Joseph Jackson Lister. He was born April 5th, 1827 at Upton in Essex. The rurally pleasant surroundings of his father's house, in a community which prohibited indulgence in "vain sports and places of diversion," but had nothing of a dismal and frigid atmosphere often associated with the Society of Friends, fostered a happy childhood.

Lister's Centenary*

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THIS is Lister's centenary. The name of Joseph Lister will ever be revered and remembered wherever surgery is taught as a science and practiced as an art. Probably there was never such an assemblage of learned and scientific men as was welcomed by King George in London on April 5 at the celebration of the centenary of the birth of Joseph Lister. In the hall of the British Medical Association numerous eulogistic addresses were delivered and in Westminster Abbey, memorial services were held by the Bishop of Birmingham—certainly no such grand and glorious tribute was ever paid to the memory of any of England's "immortal dead who live again in minds made better by their presence."

Like that other miracle, William Shakespeare, Lister was born in a small village in the midst of the common people, at Upton in Essex County, thirty-four years after the death of the great Scotchman, John Hunter, who dominated the surgery of the eighteenth century as did Lister that of the nineteenth. The brains of these two men were the mighty looms that wove the indestructible fabric of England's surgical greatness—John Hunter the greatest surgeon up to Lister's time—Lister the greatest of all time.

Lister's father and grandfather were wine merchants in London. The father, Joseph Jackson Lister, was of an eminently scientific turn of mind. He perfected the compound microscope; and "Lister's Law of the aplanatic foci remains the guiding principle as the pillar and source of all the microscopy of the age." In connection with Thomas Hodgkin, in 1827, the year of the birth of his son, Joseph, he determined the diameter of the red blood corpuscles and their rouleaux-formation. Lister's mother was Isabella Harris, a brilliant woman, and a teacher of elocution.

Joseph Lister attended private schools, at the age of seventeen entered the University College, London, was graduated A. B. in 1847, and five years later qualified in medicine. Lister was stricken with smallpox and was unable to commence his medical studies until 1848. He was, however, more fortunate than the brilliant Henry Gray, author of Gray's Anatomy, who was born the same year as Lister but died of smallpox at the early age of thirty-two, Lister upon graduation at the University College, entered the University College Hospital, and served for nine months as Erichsen's house-surgeon.

The mistake of speaking of Sir John Erichsen as an Englishman is frequently made. He was born in Copenhagen, in 1818, and the old family home Le Salais Erichsen, is one of the show places of the Danish capital, Erichsen, like Lister, started out as a physiologist, but soon turned to surgery, and at the age of thirty-two, upon the retirement of Mr. Syme from the University

* Published in the American Journal of Surgery several years ago and a year or so ago passed to Dr. John Stewart together with a very interesting correspondence that has already been published in the BULLETIN.
S. L. W.

College, London, was made a full professor there. In those days they "tried them out" before election, and Erichsen was given a lithotomy with Thompson, afterwards the great Sir Henry Thompson, who lithotritized Napoleon III, in 1872, holding the staff. On account of his myopia Erichsen was never a great operator, but measured up as a diagnostician and wrote the very Bible of surgery in 1853. During our Civil War the U. S. Government had a special edition published and gave a copy to every surgeon in the Federal Army. On September 23, 1896, on the death of Sir John Eric Erichsen from angina pectoris, the profession lost one of the ablest literary exponents of the science of surgery of the generation.

Saturated with scientific heredity and a student and admirer of the physiologist, Sharpey, it is not surprising that the spirit of investigation and experimentation was early infused into Lister's mind and that his first paper, the year of his graduation, was upon the identity of the muscle of the iris and involuntary muscular fibre. Having served his time in London, upon the advice of his former teacher and friend, Sharpey, he went to Edinburgh "to take six weeks of Syme's clinic" but remained six years and married Mr. Syme's daughter, Miss Agnes Syme.

When Mr. Syme was nineteen years of age he had charge of Robert Liston's dissecting room, but a quarrel with the great master, who never hesitated to cut off with his amputating knife a piece of his operating table to plug a bleeding bone, kept him out of the Edinburgh Royal Infirmary for a number of years. In 1829 he commenced teaching surgery and opened up a private infirmary Minto House, with twenty-seven beds, which was everywhere recognized except at home, and in popularity soon rivalled the Royal Infirmary. It was here that he first divided the sterno-cleido-mastoid muscle for torticollis. In 1833 Syme agreed to pay Russell fifteen hundred dollars a year to resign the chair of Clinical Surgery at the University and was appointed to the vacancy by the Crown. About this time Liston and Ferguson went to London and left Syme without a surgical rival in Edinburgh. With Liston, Syme revived flap amputation, first proposed by Lowdham of Oxford, and shared with Ferguson the honor of reviving excision of joints and is alone entitled to the credit of originating, in 1842, the operation of amputation at the ankle-joint, which bears his name. He devised many mechanical instruments, performed external urethrotomy for the cure of callous or impassible strictures, and demonstrated the function of the periosteum in repair of bone. Upon the death of his great enemy and cousin, Liston, who, it has been said, once was overheard demonstrating to his class the similarity of Syme's head to the chimpanzee, Syme succeeded to the Chair of Surgery in the University College Hospital of London, but returned to Edinburgh before the end of the year. Upon his return home he devoted much time to the treatment of aneurisms. He was first in modern times to incise, turn out the clot and tie each end of the diseased vessel in the carotid, axillary and iliac. J. Marion Sims said, "I have seen, all over the world, great surgeons operate, in my own country, in London and in Paris; but I have never seen such an operator as Mr. Syme." Syme was polemical and a born controversialist, immensely popular with the students, but disliked by his colleagues. His great friend and student, Dr. John Brown, the author of "Rab and His Friends," a pathetic story that need not blush in company with Hannah More's "Shepherd of Salisbury Plain," said of him, "He was almost always right in matter, sometimes wrong in manner." Mr. Syme is the surgeon in the story. Early in life Syme, who had a decided

taste for chemistry, discovered that distilled coaltar is a ready solvent of caoutchouc, which led to the waterproofing of cloth, and this process was patented by Charles Mackintosh. We owe our raincoats to the genius of Mr. Syme. Mr. Syme died in Edinburgh, in 1870, after his third paralytic stroke, and was succeeded by Lister, who was at the time in Glasgow.

We learn from Sir Hector Cameron, who was Lister's house-surgeon at the Glasgow Royal Infirmary in 1861, that he had seen as many as five cases of amputation of the leg die of pyemia in that institution in one week. This made a profound impression upon Lister, who at the early age of thirty-four had just been called to the Chair of Surgery, and he immediately went to work to investigate the cause. He taught that "the cause of suppuration in wounds was the decomposition of blood and serum retained within them, brought about in some way through the influence of the atmosphere." Sir Watson Cheyne tells us that in 1864, Lister, when walking home with Prof. Thomas Anderson, who held the Chair of Chemistry in the University of Glasgow, had his attention called to certain papers on fermentation and spontaneous generation which had recently been published by the French chemist, Pasteur. Lister read these papers and found from Pasteur's experiments that it was minute living particles floating in the air or settling on surrounding objects in the form of dust, and not the gases of the air that the surgeon had to fear.

The problem that presented itself to the mind of Lister was how to destroy these micro-organisms of the vegetable kingdom before and after operations, and if, as in compound fractures, they had already entered the wound, then how to destroy or inhibit their growth before they could get a foothold and spread. About this time Lister saw a newspaper article giving an account of carbolic acid, discovered by Runge in 1834, and its wonderful effect in cleansing the sewage of the town of Carlisle, and conceived the idea that carbolic acid might be used to kill the germs without detriment to the wound. Prof. Anderson secured a supply of a purer specimen of carbolic acid which would dissolve in water, one to twenty.

In 1863, Jules Lemaire, a French pharmaceutical chemist, wrote a book on carbolic acid in which he accepted the germ theory as the explanation of putrefaction and recommended the use of carbolic acid for dressing wounds and "for all sorts of diseases." The book attracted very little attention and the work of Lemaire was not heard of by Lister until 1867, several years after Lister had used carbolic acid, when an anonymous letter attacking Lister was published in the Edinburgh Daily Review and the profession was flooded with reprints. This false and libelous communication was traced to Sir James Y. Simpson, "a very religious man who preached every Sunday" (Gross).

All honor to the names of Oliver Wendell Holmes and the martyred Hungarian, Ignaz Philipp Semmelweis; but as Lister knew nothing of their work and was in no way influenced by them, a review of their achievements would not be germane.

In 1867 Lister struck his level and laid down upon an eternal and unshakable foundation the great principle of the modern treatment of wounds. In his address before the British Medical Association he stated that septic properties depended upon minute organisms, that suppuration might be avoided by using some agent capable of destroying them, and recommended carbolic acid. He called the micro-organisms which produce suppuration "dust particles," and believed that air infection was the great source of danger. His carbolic spray was the outcome. He soon discovered that these micro-

organisms were omnipresent, that the greatest danger was actual contact infection, and he recommended cleansing of the surgeon's and assistant's hands, patient's body, instruments, threads and dressings. He saturated a piece of lint with pure carbolic acid and mopped the wound out, afterward covering it with the same material and holding it in position with pieces of tin. The tin was daily removed and the dressings painted with pure acid. He treated abscesses by mixing pure carbolic acid with pus which formed a paste. He filled the wound with paste and covered it with tin. He next used as a dressing for all wounds antiseptic putty, made of carbolic acid, linseed oil, and carbonate of lime. The putty was found unwieldy and he used "antiseptic lac plaster," which is made by melting shellac and mixing it with carbolic acid. Its adhesiveness was highly objectionable, and he overcame it by painting the calico, saturated with shellac and carbolic acid, with "a solution of india rubber and benzine." The benzine was soon evaporated and the india rubber prevented the dressing from sticking. To prevent irritation from the acid he covered the line of incision with an oiled silk protective, which had previously been dipped in a solution of carbolic acid. We learn from Sir Hector Cameron that this was the dressing used by Lister when he returned to Edinburgh in 1869 as a successor to Mr. Syme. In the Lister number of the *British Medical Journal*, Mr. Cheyne has an article in which he states that Lister in 1873 substituted carbolic gauze for lac plaster and discovered that the dust did not contain pathogenic micro-organisms, he discarded the carbolic spray, washed the wound with a weak solution of bichloride of mercury, and substituted the double cyanide of mercury and zinc for the carbolic gauze. I heard Lister say in 1884, that he questioned the necessity of the spray but that his results had been so satisfactory that he was loath to make a change. I was impressed with his statement about the spray and in perfect agreement, as I couldn't figure out how to get the price of one of those big steam sprays out of my allowance. He used carbolic acid for disinfection of the skin and instruments. Just prior to his discovery, from 1864 to 1867, his mortality in major amputations was 50 per cent. From 1867 to 1869 his mortality in the same class of cases was 15 per cent. In the face of these decisive and incontrovertible statistics Spence Billroth, and other leading surgeons ignored his teaching and continued to empty their wards with a death-rate four times greater than his. Professor Ogston, of Edinburgh, first accepted it in its entirety, and he was soon afterward followed by Macewen of Glasgow. A German, Von Bergmann, in 1886, was the first to use steam sterilization for instruments and dressings.

A son of a member of the Society of Friends, Lister was the antipode of his twin brother in science, the polemical, pugnacious, and unpeaceful Pasteur, who after the Franco-Prussian War in 1871 wrote to the Head of the Faculty of Medicine of the University of Bonn, "Efface my name from the archives of your Faculty and take back that diploma, the sight of that parchment is odious to me." When taunted and told by the British Medical Association at Plymouth in 1871 that "as his solutions become weaker and weaker his faith appeared to grow stronger and stronger." Lister did not swerve nor turn but intrepidly walked the highway of the right. His critics said the smell of carbolic acid would preclude its use; but in 1871 he was called by Sir William Jenner to operate upon Queen Victoria for a large abscess that had come between the armpit and mamma, and he used carbolic acid. Her Majesty answered the criticism. Queen Victoria was the first patient upon whom

Lister used a rubber drainage tube, though Chassaignac had used it in 1859. Lister cut the tube from a Richardson's atomizer that he had used the day previously to freeze the parts, and soaked it in carbolic acid. Sir Hector Cameron tells us that Lister was immensely pleased when King Edward VII said, "Lord Lister, I know well that if it had not been for you and your work I would not have been here to-day." The King referred to his operation for gangrenous appendicitis performed by Sir Frederick Treves which was made possible by Lister, and at which he was present.

The immortal Master lived
To see his own work out
And watch the sandy footprints harden into stone.

Lister's active work as a surgeon ended in 1892 when he reached the age limit and retired from King's College Hospital. We have it upon the high authority of Sir St. Clair Thomson that Lister with a purely altruistic motive left the Royal Infirmary at Edinburgh, in 1877, where he had sixty to seventy beds, his lecture room crowded with enthusiastic, sympathetic and friendly students and foreigners, and went to King's College Hospital where only twenty-four beds would be allotted to him and his audiences would be cold apathetic, and unfriendly, because London was the hotbed of his opposition and by going there he could sooner overcome the opposition, disseminate his great truths, and fulfil his mission in the world. Lowell has well said, "We breathe cheaply in the common air thoughts that great hearts once broke for." In 1895 Lister was elected President of the Royal Society and Mr. Cheyne says it gave him another five years of life.

In 1893 Mrs. Lister died under peculiarly distressing circumstances. She and her husband were botanizing in an out-of-the-way spot on the Italian Riviera when her death came after four days' illness of acute pneumonia. Lister was alone without a nurse or friend other than the local Italian doctor. He prepared the body for the difficult journey and distressing home-coming. She was truly his helpmate and after his death most of his papers were found in her handwriting. They had no children.

Never was there a more inspiring scene than on the celebration at the Sorbonne of Pasteur's seventieth birthday on December 27, 1892. With the band of the Republican Guard playing a triumphal march, Pasteur, worn and broken, leaning heavily upon the arm of the French President, Carnot came upon the stage and fell into the arms of Lister. This memorable meeting was portrayed upon canvas by the great artist, M. Rixens. It was like the meeting of Wellington and Blucher after Waterloo when the great Corsican commenced his melancholy march to St. Helena. It was the signal to the world that the surgery of the past, with its indescribable sufferings, miseries, misfortunes, and death was gone and forever, and that a new era, a golden age, of untold possibilities filled with hope, happiness and life for this and future generations had loomed. It was man's redemption of man. It was science in benediction with outstretched hands.

In 1875, though Lister's "turret torch was blazing high," like Leander, the surgeons in America would not see and could not hear. We find Dr. Samuel D. Gross, the Nestor of American Surgery, and Dr. Lewis A. Sayre, hard by, pushing a trocar through the ninth intercostal space of Vice-President Breckinridge at Lexington, Ky., to drain an abscess of the liver that was discharging a pint of pus daily through the lung. Dr. Gross complacently remarked that he made no reply to criticism, "conscious that we had done our duty."

As paradoxical as it may appear, mistakes are often a boom for the relief of suffering humanity. Perhaps some such case as Breckinridge's may have suggested to Sir Frederick Treves to go into an hepatic abscess and drain it with a tube an inch in diameter. When McGill, the father of prostatectomy, was told by his house-surgeon, Moynihan, that the microscope showed that "a tumor he had removed at the base of the bladder was prostatic he answered." "Then why don't we always take the prostate out when it projects into the bladder?" When Sir Spencer Wells by mistake operated for an ovarian cyst and found tuberculosis ascites he established the surgical treatment of peritoneal tuberculosis; and when he operated for a supposed uterine fibroid on an eighteen-year old jaundiced girl, and removed an enlarged spleen, he cured a lifelong jaundice, and inaugurated a surgical treatment of hemolytic jaundice (Moynihan). When Lister in an old dislocation at the shoulder-joint tore the axillary artery it was a warning against the use of too great force and a brief for the open operation.

In 1877 Dr. John T. Hodgen, the ablest and most progressive surgeon in St. Louis, said to Bernays, "I have performed sixteen laparotomies and have fifteen tombstones to show for them." It would have exhausted the imagination of a Dumas to have predicted that Dr. Hodgen's assistant, Dr. W. W. Mayo, upon the pedestal of whose statue in a Rochester park is the appropriate line of Wordsworth, "A man of hope and forward looking mind," would have founded the Mayo Clinic and that his sons, those wonderful surgeons, Drs. W. J. and C. H. Mayo, who have "eyes that feel and fingers that see," would have reported in 1925, 8,147 laparotomies with a total death of 2.7 per cent. Lister made it possible.

In 1879 I saw a distinguished New York Surgeon, Dr. Alexander B. Mott, resect a hip-joint on the same table upon which Dr. J. D. Bryant had just made an anatomical demonstration. He had the courageous impudence to tell us of the insulting language that he had used in 1876 to that man of invincible patience and radiant purity, who had laid the benign hand of healing on the wounds of humanity—Joseph Lister—and we the idiocy to applaud.

In a recent letter from the venerable W. W. Keen he said, "I was Lister's first pupil in Philadelphia, on August 1, 1876, in St. Mary's Hospital, gathering all the utensils, including steam spray, to carry out exactly his methods."

Sir St. Clair Thomson in the commencement of his scholarly address, "A House-Surgeon (Memories of Joseph Lister,)" quotes the lines written by Robert Browning when he met a friend who had known Shelley:

And did you once see Shelley plain
And did he stop and speak to you
And did you speak to him again?
How strange it seems and new.

Thomson said these lines convinced him that it was the duty of those who had the great privilege of "seeing Lister plain" to recall their personal recollections.

Joseph Lister weighed approximately 185 pounds and was six feet in height. He wore side whiskers and his hair, an iron gray was rather long. His dress was always the same, a black Prince Albert coat and dark grey trousers, a standing collar and black cravat—"the apparel oft proclaims the man." He was modest, unobtrusive and cared not for fame or fortune, but like Robert Burns clung to the common everyday facts of life. When

honors were thrust upon him they were received with a personal detachment, as his gratification and satisfaction were purely because he felt that his great work for the relief of suffering humanity was progressing, that his teachings were being more and more recognized and accepted. His sympathies touched the extremes of life and were as wide as want. In the serene simplicity of his great, generous, and sympathetic soul there was no station, caste, nor prerogative, and the "poor man was as rich as the richest and the rich man was as poor as the poorest."—"Dives relinquished his riches and Lazarus his rags." Possibly the greatest shock of Lister's life came to him when he, after reprimanding a Sairey Gamp, a type of nurse immortalized by Charles Dickens, asked her if she never thought of her responsibility for all the poor sufferers under her charge and she nonchalantly replied, "Oh, I nae minds o' them."

It has been well said that "things small within themselves oft have far-reaching significance." I received this letter from him when I named my son, Congressman Joseph Lister Hill, for him:

High Cliff,
Lyme Regis,
Dorset,
5th March, 1895.

My dear Sir:—

Your letter has been forwarded to this place, where I am just now staying, I need hardly tell you that I have been much gratified by the honor you have done me in naming your son after me, and also by the very kind terms in which you refer to my teaching as it affected yourself.

Cordially wishing all happiness to you, and a life of health, goodness and usefulness to my namesake.

I remain,

Very sincerely yours,

Dr. L. L. Hill.

Joseph Lister.

The letter was characteristic of the great man. He did not wish fame, fortune or exalted position, but simply "a life of health, goodness and usefulness to my namesake." It told the whole story.

Sir St. Clair Thomson was Lister's house-surgeon when I was there and it was evident that he had the approbation and confidence of his Chief. He was to Lister in his hostile surroundings at King's College Hospital what Archie Butt was to Roosevelt. The nursing was done by the Sisters of St. John, an Anglican Community, who thought surgeons operating was by their sufferance, that Lister's daily visits to the hospital were unwarranted interferences, his Sunday visits sacrilegious; who thought more of the esthetic than surgical dirt, believed more in prayer without operations than operations without prayer, did everything in their power to stifle and obstruct the efficient carrying out of the details of Lister's treatment and in a general way "with devotions' visage and pious actions sugared over the devil himself." Sir St. Clair Thomson knew how to act promptly and do things—"carry a message to Garcia." He is the author of one of the best textbooks that has ever been written on the diseases of the nose and throat, and is the Chevalier Jackson of England. It is no wonder that he has been knighted.

Having finished my studies in New York and Philadelphia, I had a great desire to visit London and see Mr. Lister, with whose work I was familiar and whose great name was then claimed by England, but has since become a common heritage. In September, 1883, after a tempestuous voyage of fourteen days in which "Fright did not cure the qualms of all the luckless

landsmen seasick maws" I reached Liverpool. On arriving in London I matriculated at King's College and through the courtesy and kindness of Dr. John Curnow, Dean of the Medical Faculty of King's College, I was given every opportunity to attend the Surgical Hospital Practice and Surgical Clinical Lectures at King's College Hospital, which has since been moved to Camberwell, had a capacity of three hundred beds, was devoid of grounds, and was located in a thickly settled neighborhood very near the Hunterian Museum, which cost John Hunter, called the Dick Whittington of British Surgery, over \$375,000 and which since 1800 has been owned by the Royal College of Surgeons.

As I passed up the magnificent stairway and entered the operating room to hear Lister's opening lecture my eyes soon rested upon the bas-relief of Sir William Fergusson, whom Lister succeeded in 1877. I thought of his thirty-four years of active service in the hospital and of his lamentable death, of Bright's disease. I could see the great Scotchman, the most marvelous operator of his time, remove the upper jaw lithotomize, perform his wonderful plastic work, and divide the levator palati and palatopharyngeus muscles as a preliminary to his successful staphylorrhaphy. His wonderful delicacy of touch enabled him to become a great violinist. Like Billroth, Mikulicz, and Rokitsansky, he was a lover of all music, a worshipper of Wagner, Beethoven, and Liszt, "of every eagle that soars in the heaven of sound." Fergusson was an uninteresting lecturer, not well informed about the works of others, but his ideas of pathology were archaic. On one occasion, while lecturing upon caries and necrosis, a student reminded him that his views differed from those of Niemeyer. Fergusson replied: "Sir, Nehemiah was a gentleman who wrote one of the books in the Old Testament, but I have yet to learn that he had views on caries and necrosis."

I thought of Sir Thomas Watson, "The Cicero of English Medical Literature," having once been a teacher here and how he electrified his classes.

Richard Partridge had previously been a surgeon of great distinction at King's College Hospital. He was one of the surgeons who went to Italy to examine Garibaldi's ankle after he was shot at the battle of Aspromonte in 1862. Partridge, unable to locate the bullet, said that none existed. But Garibaldi was not satisfied with the English surgeon's opinion and sent to Paris for Nelaton. Before starting to Italy Nelaton consulted an eminent French chemist to ascertain whether it were possible to devise an instrument which when rubbed against lead would receive the stain of the metal. The result was the famous porcelain probe, a metallic rod tipped with porcelain, which all of us had in our pocket cases before the roentgen ray. With this Nelaton located the bullet, enlarged the sinus, removed it, and this was followed by a cure with permanent ankylosis. Nelaton made a great reputation, and Partridge never recovered from his mistake.

Mr. John Wood was a clinical professor of surgery at King's College Hospital when I was there. He was a powerfully built man with a distinct lameness and a harsh and abrupt manner was a thorough anatomist, having once taught it, and I thought a very good operator. He had written a book on hernia and frequently did his subcutaneous wire operation for the radical cure of inguinal hernia, the success of which depended upon getting firm union of the conjoined tendon of the internal oblique and transversalis muscles with the deep part of Poupart's ligament. The operation seemed to me blind and brutal, and could easily have been bloody where a lesser anatomist than Mr. Wood stuck the big needle into the iliac artery. Wood claimed that "Lister's fame came from Germany, that the Germans were dirty people

but that the antiseptic system was not really necessary in England." "Mr. Wood wrote the article on hernia for Ashurst's "International Encyclopedia of Surgery." Mr. Wood's assistant was Mr. William Rose, who was always flashily dressed, and I thought had many of the elements of an English dude—the direct opposite of his Chief. It never occurred to me that Mr. Rose would be the first to remove the Gasserian ganglion or write a standard textbook on surgery.

When Mr. Lister appeared in the operating room he was accompanied by his assistant, Mr. Watson Cheyne, now a member of Parliament, whom he brought from Edinburgh in 1877, when he came as the successor of Sir William Fergusson. "Lions make leopards tame." In the august presence of this great man who "had divided the history of surgery into two great eras, before Lister and after Lister," I was awed into a feeling of what Benjamin Rush described as suffocated excitement. Lister was then practically in the meridian Splendour of a fully developed and glorious manhood. Unlike our American professors, he took a seat. He commenced lecturing upon the aseptic and antiseptic treatment of wounds, the chart and compass of all surgical advancement. It occurred to me that I had never seen so thoughtful a face, a more kindly expression, nor a more benignant smile to mirror a great inward soul. He spoke in a conversational tone with an almost imperceptible stammer that added to the charm of his musical voice, and he had a lucidity of statement unequalled by even Mr. Erichsen. As an operator he was resourceful cleanly, bold, courageous, self-possessed, but not given to rashness. He wore no operating overalls and had no rubber gloves, but his work was the signboard upon the great surgical highway that pointed to the perfection of to-day. He taught us avoidance of irritation by antiseptics, for which he used oil silk protective, and the destruction with carbolic acid of the micro-organisms before they reached the wound. I saw him refuse to amputate in a compound dislocation of the ankle-joint with extensive laceration, and in a compound, comminuted fracture of the leg. I remembered what the elder Gross had taught me, and I thought of what Syme had said, and yet I saw him save both limbs. I saw him operate for knock-knee, malunited and ununited fractures, wire the patella and olecranon, excise the wrist for caries, perform an open operation for radical cure of hernia, resect the knee-joint, do a suprapubic lithotomy, and almost do a Halsted in a mammary carcinoma. In 1867 Lister performed the first of his radical breast operations upon his sister after she had been told by the most eminent London surgeons that an operation on account of the dangers of infection was absolutely unjustifiable. Lister believed that with the use of antiseptics the undertaking was warranted and having the courage of his convictions removed the breast and contents of the axilla with a part of the pectoralis major muscle. She recovered and lived for many years. Lister's heroism parallels that of our Halsted, who with his own hand, in 1881, turned the current of his own blood into a vein of an exsanguinated and apparently dying sister, and saved her. A year later he hurried to Albany, New York and at two o'clock in the morning operated upon his mother for empyema of the gall-bladder that was about to rupture, and relieved her. It all seems easy to-day for, as Alfred Tennyson has beautifully expressed it,

Most can raise the flowers now
For all have got the seed.

I saw Lister use no other anesthetic than chloroform, by the open method discovered in 1847 by one of his colleagues and one of his most unrelenting and

unfair critics, Sir James Y. Simpson, who said, in 1871, "The man laid on the operating table in one of our surgical hospitals is exposed to more chances of death than the English soldier on the field of Waterloo" (Thomson). It was an American surgeon, Crawford W. Long, that five years before Simpson

Struck from the toll of pangs one awful sum
Made pain a dream and suffering gently dumb.

Lister used silver wire alone for suturing, for which he gave Sims credit, with a specially constructed needle. The eye of the needle was some distance from the end, and beyond the eye were grooves in which the wire fit snugly. He manifested the greatest admiration for his illustrious father-in-law, frequently during his lectures quoted Mr. Syme, and would sometimes exhibit pathological specimens that had been collected by the great surgeon. His article on amputation in Holmes's "System of Surgery" is a classic, and Lister's method of bloodless operating antedates Esmarch's bandage.

I had the honour of being one of the students that cheered him in 1883 when he returned from Windsor Castle with a baronetcy and I rejoiced when he became a peer in 1897. Lister's pioneer work in practical surgery, which entitled him to everlasting fame, has been completely over-shadowed by the enormous benefit to suffering humanity brought about by his revolution in the treatment of wounds. Lister's greatest characteristic was his conscientiousness. He refused to allow Mr. Cheyne to publish the notes of his clinic because surgeons, who did not believe in antiseptic treatment or who did not understand the technique, without the protection of which there would be loss of life or limb, would attempt to perform his new operations and to carry out his new line of treatment.

The other day at the celebration of Lister's Centenary, in London, Sir Berkeley Moynihan said in his masterly address: "Though Lister's earliest efforts were concerned with the abatement of existing decomposition of wound discharges, it was not long before the problem of the prevention of infection became paramount. It is beyond dispute that Lister clearly realized the distinction between the "prophylactic" and the "therapeutic" uses of chemical agents in surgery. We know now that the old quarrel as to the relative merits of the "antiseptic" and the "aseptic" methods was senseless and jejune; for Lister was indubitably the parent of both; if indeed, there are really two methods. No surgeon ever practiced with success a method in which agents for the destruction of prgamos, were plotted. Aseptic surgery is the wise practice of antiseptic surgery. There is a difference in detail, not in ideal, or in fundamental truth. Never aggressive, never plastic nor unpeaceful, but always kind and always considerate, he would say to us "Gentlemen, I commend these facts to your candid and impartial judgment, beseeching you to form your own opinions regarding them. You are as competent as you will be to draw logical inferences from established data." "Lister was unfitted and unsuited by temperament, training, and early environment for controversy;" and, unlike Socrates, had no Xenophon, or to be more explicit, had no "bull dog", as Darwin had in Huxley, to attend to the needs of Spence, Simpson, and Savory. During the six months that I saw him almost daily there was never a word nor act to cast a shadow upon his cherished memory.

By his great generalizations he has placed every organ in the body under the domain of surgical sway, made possible the wonderful clinics of the Mayos, Murphy, Deaver, Ochsner, Robert Jones, Moynihan, and others.

Lord Lister relegated diseases like hospital gangrene to the past, and to victims, "oft in the morn and liquid dew of youth," listlessly looking a last good-bye to their loved ones he has given a chance, and glorified surgery. He has made civilized man his debtor brought joy and gladness alike to the hovel of the poor and to the palace of the rich, to the Coburg of Windsor Castle and to the degraded occupant of White Chapel.

Sir Berkeley Moynihan in his Boswellian Oration, "John B. Murphy—Surgeon," referring to Lister, said, "If a man's services to humanity are the standard by which we measure his value then Lister may be counted as perhaps the greatest man the world has ever produced. He has been the means of saving more lives than all the wars of all the ages have thrown away." Who is better equipped or more competent to pass judgment upon the achievements of Joseph Lister than Berkeley Moynihan?

Sir St. Clair Thomson said, "Lister has wrought more for the relief of suffering, for the security of life, for the prevention of anxiety and for the promotion of happiness than any one man who has ever trod this earth."

Our distinguished ambassador, Thomas F. Bayard, addressing Lister at a banquet, said, "My lord, it is not a profession, it is not a nation, it is Humanity, itself which with uncovered head salutes you."

Drawn and withering, for three years practically deaf and blind, Lister sat in the twilight of a life of fulfilment, "waiting for the night, waiting for the light," when on the morning of the 10th of February, 1912, at Walmer, the curtain fell upon the world's greatest tragedy, save when there came from those pallid lips, that had never uttered any but the purest and sublimest thoughts, that heart-rending cry as they were molding on the inertia of death, "My God, My God, why hast Thou forsaken me?"

When Baron Lister "left the shore touched by the mysterious sea that never yet has borne on any wave the image of a homeward sail," the great surrogate of truth and justice decreed as his legacy to his profession the magnificent achievements of the present and the marvelous possibilities of the future.

By his request he was buried with his wife at West Hampstead, although the services, with representatives from every civilized nation of the world present, were held at Westminster Abbey, where death is associated with public veneration and imperishable renown, and where the choir, as over John Hunter, proclaimed Handel's Funeral Anthem. As Sir Rickman Godlee said, "the words of the anthem, though a strange blending of texts from the Old and the New Testaments, were peculiarly applicable."

When the ear heard him, then it blessed him, and when the eye saw him it gave witness of him: he delivered the poor that cried, the fatherless, and him that had none to help him. Kindness, meekness and comfort were in his tongue. If there was any virtue, and if there was any praise, he thought on those things. His body is buried in peace, but his name liveth evermore.

In closing this altogether inadequate sketch of my venerated master I am tempted to paraphrase a beautiful apostrophe by that charming personality, "sculptor in speech, and colorist in words," Ernest Renan: "Repose in glory, noble founder, thy work is finished, the most complete immortality established. There will travel the royal road, which thou hast traced, ages and ages of followers."

There never was but one Joseph Lister, there never will be another.

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THE RETURN OF THE LOST.

WITH this issue the editorial board of the BULLETIN returns to the job after a lapse of some months. The board feels that it should make some explanation for this absence. It took on its duties last year with the understanding that it was to control and direct the entire policy of the organ, and have full oversight of all material going into it. But the General Secretary had other ideas. He felt that the BULLETIN was, in a sense, his baby and that, considering the many years of work he had put into it, that he should be permitted to control solely certain parts of the journal content. The board agrees that there is considerable to be said for his contention, and recognizes that it has been largely through his efforts that the journal has become what it is. At the same time it felt that it had a very definite mandate from the last annual meeting to control the entire policy, and that unless it could do this it had no right to function. As a result of the ensuing deadlock the board retired from its duties and permitted the General Secretary to carry on. The deadlock has now been broken and the board returns to do what, in the first instance, it believed it had a mandate to do.

The board has no desire in making this statement to reflect on the splendid work the General Secretary has done for the BULLETIN in the past. It does feel, however, that as regards the future, the policy of the journal must reside solely in the hands of whatever editorial board is accredited at the annual meetings. The board is convinced that only in this way can the BULLETIN reflect the opinion of the Society as a whole.

CALCIUM.

What is the position of Calcium in our scheme of things? What are the effects of reduction of this very common element in our diet? Is it true that in the ordinary normal diet of a healthy man the one element that does not tend to be present in adequate amount is Calcium? Why, during the last couple of years, have we been flooded with Calcium literature and Calcium samples? Why all the fuss about Calcium?

The many who have at some time asked those questions and who have not already been satisfied will find pleasure in reading Dr. Jim Reid's paper which is reproduced in this number.

CASE REPORTS

Victoria General Hospital

AVERTIN.

AVERTIN, which has been in use since 1927 as a basal anaesthetic, is tri-brom-ethyl alcohol dissolved in amylene hydrate. It is administered rectally, and is meant to be supplemented by some form of general anaesthetic, or by local. Some of the cases in which we have used Avertin did not require any supplemental anaesthetic, but, in general, some is needed, although the amount of general or local anaesthetic used is but a fraction of the quantity required in cases where no Avertin is employed.

The amount of Avertin used is gauged by the age, weight, sex, and general condition of the patient. It is dissolved in enough distilled water at 40 degrees C. to make a 2.5 per cent. solution. The anaesthetic is given in the patient's room, and is given rectally, one half hour before operation, by means of a catheter and funnel. It is given fairly slowly, and almost invariably, the patient falls quietly asleep before the Avertin enema is completed.

Pre-operative treatment is very simple—An ordinary s.s. enema is administered the night before, and Luminal or Nembutal (gr. iss) given at bedtime. The morning enema and the usual pre-operative hypodermic of morphia and atropine are omitted.

Post-operative results are excellent. The patient usually awakes several hours after operation, and has no recollection of going to the operating room. Absence of nausea and vomiting and gas pains is a very desirable feature of the use of Avertin. The patient's only recollection of the operation is the beginning of the Avertin enema, which they invariably think is a repetition of the ordinary enema which they received the previous night.

This type of basal anaesthesia is particularly good in cases of nervous individuals who frequently dread the trip to the operating room, and the administration of the inhalation anaesthetic more than the actual operation.

Investigation of the pharmacology of Avertin shows that even in fairly large concentrations it has no deleterious effect on the heart. The very small amount of supplemental ether or chloroform needed or by supplementing with nitrous oxide and oxygen, or with local, allows its use in cases where, because of some pulmonary condition, an ordinary inhalation anaesthetic would be contra-indicated.

Contra-indications to the use of Avertin are: severe organic disease of the liver; serious bilateral disease of the kidneys; lesions of the rectum; acidosis; starvation; severe blood diseases; and grave cachexia, in all of which the use of general anaesthesia is also dangerous.

The desirable features emphasized are: pleasant and peaceful induction; the small amount of supplemental anaesthetic required—inhalation or local; adequate duration of basal anaesthesia in prolonged operations; smooth awakening and absence of psychic shock; infrequency or absence of post-operative pain and vomiting.

Case.

Male patient, aged 46, admitted December 12, 1932, following an accident in which he received a severe injury to his back. On admission he had paralysis

of his lower limbs, and X-ray showed fractures of the bodies and laminae of the 3rd and 4th lumbar vertebrae. Immediate laminectomy was advised, but patient refused to have this done until thirty-six hours following admission. He was very nervous and dreaded the anaesthetic as much as the actual operation.

Avertin, (6.1 c.c. in 244 c.c. distilled water) was given rectally one half hour before operation. Patient fell asleep very quietly before Avertin enema was completed. Patient had to be placed on the operating table face downward, making the administration of ether rather difficult, but this was overcome by using the Junker apparatus, with a special mask which is strong enough to support the weight of patient's head, and has special attachments for the diffusion of the ether vapour, and also for the administration of oxygen or carbon dioxide. A very small amount of ether was used—not more than three ounces over a period of almost two hours. The patient's colour, pulse, and respiration were excellent throughout the operation, and his post-operative condition was all that could be desired. He had no recollection of anything after the beginning of his Avertin enema. On awakening in the post-operative ward that afternoon he inquired when his operation was to take place and refused to believe that it was all over.

C. M. BETHUNE.

Service of Dr. H. K. MacDonald.

(1) RETRO-PERITONEAL ABSCESS.

Male—White.

Admitted February 27th, 1933.

Complaints: (1) Mass in left lower quadrant of abdomen. (2) Pain on defecation. (3) General ill-health.

Family History: Several members of family have died with malignant growths. One brother died with gastric carcinoma at the age of 38 years.

Personal History: Always enjoyed good health. Wounded in back and hand while overseas. Tonsillectomy in 1925. Patient also suffers from 2nd degree piles.

Present Illness: Early in February patient had what he considered an attack of the "flu" with the "main brunt" of the attack apparently in the accessory nasal sinuses. He had a copious nasal discharge of pus for 10 days. Some cough at this time. No diarrhoea or other gastro-intestinal symptoms. After the attack of "flu" patient didn't feel up to his usual standard, and he began to have some distress low down in the left abdomen. The distress was first noticed after a drastic purge. The distress gradually became worse until it was a fairly severe pain. His temperature went up to 103 degrees. He had no chills, but perspired freely. On eating anything he would have colicky pains but no nausea or vomiting. About 2 weeks ago (previous to Feb. 27) he felt a mass in the lower left quadrant of the abdomen, which he thinks is gradually increasing in size. The pain is made worse by bowel movements. Patient states that his bowels seem to be in a very irritable condition.

General Physical Examination: Patient shows a fair degree of nourishment, but is pale with pale mucous membranes.

Examination of Abdomen: Abdomen moves on respiration.

Palpation: Mass felt in left iliac region reaching upwards to level of umbilicus and downwards to inguinal ligament and to the mid-line medially. Mass is smooth, and very tender.

Rectal Examination: Negative except for haemorrhoids. No mass to be felt, or no marked point of tenderness.

Progress Notes: Feb. 27, 1933. Leucocyte count, 19,000. Differential count: Polys., 69%. Lymphocytes, 23%; Mononuclears, 5%; Basophiles, ... Eosinophiles, .. Red blood cells show achromia with alteration in shape. No nucleated forms seen. Blood pressure, 122/76. Haemoglobin, 55%. Barium enema given. Enema passed up by site of mass. Bowel in a spastic state. Blood taken and matched for transfusion.

March 1, 1933. Operation: Left split rectus incision. Bowels packed off. A large mass the size of the fist found attached to the sigmoid colon. Mass appeared to be behind the colon, in the mesenteric attachment. Appearance of the surface of the mass suggested it to be of inflammatory nature. No evidence of the presence of pus. Exploration by gentle dissection revealed no pus. Parietal peritoneum separated from ant. abdominal wall laterally, so that the hand could be placed behind the mass. No pus found in this retro-peritoneal area. Small piece of tissue removed for examination. Three cigarette drains.

Post Operative Notes: Following operation patient had a rather bad time. Nauseated and vomiting for 3-4 days. Around the 5th day patient took a severe chill followed by profuse perspiration. Pus drained freely from rubber drain and a tube was inserted. Pus drainage practically over when patient left hospital and the mass was no longer palpable. Ventriculin with Iron was given for anaemia with good results. Patient left the hospital with his general health much improved and with a leucocyte count which was nearing normal. Temp. normal and also pulse.

Discussion: Differential Diagnosis; (a) Diverticulitis. (b) Appendicitis. (c) Suppurative process in some Retro-Peritoneal glands. (d) Abscess, retroperitoneal and secondary to traumatic condition of lower bowel. (1) Haemorrhoids. (2) Foreign body which penetrated wall of bowel. During patient's convalescence attention was drawn to fact that he had a war injury and possibility of the injury having some connection with the condition was discussed. An X-ray examination showed numerous metallic particles lying opposite 3rd and 4th lumbar spines on left side and our radiologist thinks that their presences may have been cause of condition.

X-Ray Report: Feb. 28, 1933. Examination of pelvic bones does not show any evidence of an abnormal condition. Barium enema shows marked spasticity of upper part of pelvic colon and whole of descending colon suggesting inflammatory changes resulting from diverticulitis.

March 18, 1933. Examination of abdomen by single film shows numerous metallic particles lying opposite 3rd and 4th lumbar spines on left side.

H. K. MACDONALD.

(2) GUNSHOT WOUND OF THORAX.

W. P., age 16 years was admitted to the Victoria General Hospital at 9.30 p.m. on February fifth, 1933. The patient was suffering from a gun-shot wound of the left thorax which occurred about five hours before admission.

The wound was caused by a ball from a shot-gun accidentally discharged by the patient. The patient was able to walk to his home about one mile from the place where the accident occurred. He did not lose consciousness after the accident, and there was little haemorrhage from the wound, but he coughed up a small quantity of blood. After the administration of morphia he was driven to the hospital a distance of sixty miles.

On admission patient complained of pain in the left thorax, pain in the back near the angle of the scapula, shortness of breath, and cough which aggravated the pain. He was very weak. The temperature was 101.6° pulse 140 and respirations 40. Physical examination revealed a clean round punctured wound with burned edges $\frac{1}{2}$ in diameter and 1" internal to the left nipple over the fifth interspace. There is a marked subcutaneous emphysema over the whole left side making auscultation and percussion useless. There appeared to be some limitation of movement of the left side.

On February sixth the temperature rose to 104°, pulse 160, respiratory rate unchanged; Blood pressure S100—D60; patient appeared pale and very weak; X-Ray examination showed a diffuse opacity involving the left thorax with displacement of the heart mediastinum to the right. The bullet can be seen lying at the level of the fourth rib anteriorly in the axilla. A direct blood transfusion of 500c.c. was given and aspiration of 400 c.c. of blood from the left thorax partially replaced by air.

The patient's condition improved after this and Feb. 14, 1933 an incision was made over the palpable bullet and the bullet along with the hair wadding and cardboard cover removed. The hole into the pleural cavity was palpable. Thick pus was obtained from bullet cavity. A rubber dam was inserted into cavity and the incision sutured. Following the operation patient was confined to bed until March 8. During this interval he ran an afternoon temperature which started at 103°F and gradually day by day became lower until normal temperature was reached. Pulse rate during this time ranged from 100-115 varying with the temperature oscillations.

The wound gradually healed up, so that at time of discharge there was only a thin sinous discharge. For a few days after patient was allowed up, his pulse rate was consistently around 100 with a normal temperature, but this gradually approached normal at the time of discharge (March 18) it was 80/min. Examination of left chest at intervals showed that the physical signs were approaching normal.

Note. When the finger was placed on the scar of the bullet entry the apex beat could be felt directly beneath it.

V. O. MADER.

Department of Gynecology—Service of Dr. Atlee.

OVARIAN CYST—TWISTED PEDICLE.

Mrs. H. S. Age 20.

Admitted. Mar. 1st, 1933.

Complaints: (1) Pain in lower abd. (2) Backache. Temp. on admission, 100°. Pulse 136. Leucocyte count 13,000.

Family History: Negative.

Personal History: Tonsillectomy 10 yrs. ago. Three years ago had swelling over front of neck lasting for a few days and was given I₂ for a few mos.

at that time. Cystoscopic examination in January 1933. Has been married 8 mos. Has dyspareunia—last normal period Feb. 9th.

Present Illness: Five mos. ago took a sudden severe pain in back and left loin which radiated around to groin. Pain was so severe that she fainted. Vomiting occurred and together with the pain continued daily for about two weeks. Two months ago she had a similar attack, but more severe. She was cystoscoped at this time. Cystoscopy apparently negative. One week previous to admission she had a third attack accompanied by vomiting—the left side continued to pain until two days ago when the whole of the lower abdomen became sore and painful, pain alternating between right and left side and in the back. No vomiting since the pain went to the right side, but she has been nauseated. No urinary symptoms with the exception of going considerable time without voiding.

General Examination: Reveals nothing out of the ordinary with the exception of a rapid pulse and apprehensiveness.

Abdominal Examination: Reveals a smooth rather firm mass—rising to within about 2" of the umbilicus in the mid-line. Extremely tender over the mass. No fluctuation elicited.

Vaginal Examination: Showed cervix to be pushed back against posterior vaginal wall with the uterus lying to the left and the tumor on bimanual examination was lying in the mid-line, felt firm or tense, and a definite wave of fluctuation would be elicited. Diagnosis was made of Ovarian cyst with a Twisted Pedicle.

Operation was performed and the left ovary was found to be the seat of a large multilocular ovarian cyst with a twisted pedicle—the twist being one and a half times.

The tumor was bluish black in color and very tense.

Histological Examination showed it to be Pseudo-mucinous cystadenoma, non malignant. Post-operative recovery uneventful except for a rapid pulse which lasted for about a week and the temperature being practically normal.

W. G. COLWELL.

KIRSCHNER'S WIRE EXTENSION FOR FRACTURE OF FEMUR.

A fireman was injured in a collision between his ladder truck and an automobile on January 27th. He was admitted to the V. G. Hospital. Examination revealed a fracture of right femur, junction of upper and middle third, with two inches of shortening. He also had a severe scalp wound in left frontal region.

After recovering from shock, an anaesthetic was administered and a Thomas splint applied with Buck's extension and thirty pounds of weight were used to correct the shortening.

January 30th, X-ray examination showed marked shortening with inward and backward displacement of lower fragment. February 1st, I decided to insert Kirschner's wire through the condyles of the femur. This was done under a general anaesthetic on account of the patient being of a nervous temperament. A knee flexion attachment was applied to the Thomas splint

and thirty pounds of weight were attached to the stirrup. A portable X-ray, taken three hours later, showed the overriding to be completely corrected. During the next day two minor adjustments were made to the fragments, checked up with the portable X-ray.

In six weeks' time there was good callous formation and the wire was cut off short and removed.

Remarks: The use of fine piano wire in the treatment of fractures by skeletal traction was originated by Kirschner of Tübingen. The advantage of wire over metal pins and callipers is its fineness. It can be introduced under local anaesthesia without causing discomfort, whilst the small punctures in the skin minimizes the risk of infection. They heal up in a few days after the wire is withdrawn. A special drill is required to introduce the wire through the bone. A special stirrup is used for rendering the wire taut, so that it remains rigid during extension. This method of extension will serve a wide field of usefulness. It will, undoubtedly, diminish the number of open operations. It can be applied for fractures of any of the long bones.

W. ALAN CURRY.

Service of Dr. Murphy.

EMPHYEMA AND PERITONITIS

Chas. Adams. Age 42. Colored.

Admitted February 16th, 1933.

Complaints: Cough. Abdominal Pain. Vomiting. Constipation. Headache.

History: For several weeks previous to admittance he had cough and headache for which he was taking aspirin frequently. During the night of February 14th, he took a severe pain in the abdomen. The pain was of sudden onset and localized about the navel, with no radiation. Vomiting followed shortly and has been persistent. Bowels had been constipated. Until the day of admittance when he had received Epsom salts by mouth and three enemas, with very little result. The history otherwise has no pertinent points.

Examination on admittance: Temp. 102°, Pulse 130, Resp. 35.

Thorax: Evidence of an effusion into the right pleural sac, with displacement of the heart to the left.

Abdomen: Moderate distention. Movements of abdominal muscles restricted, particularly in upper right quadrant, slight tenderness over entire abdomen, most marked in right side at level of umbilicus.

Rectal: Tender indurated ridge palpable above the prostate in Douglas Pouch.

A needle introduced into the right pleural sac, withdrew about 40 c.c. purulent fluid, which showed pneumococci on smear, and which was consequently confirmed by culture.

The problem then presented was, were we dealing with an empyema with referred abdominal signs, a pneumococcal peritonitis or an associated intra abdominal lesion. My opinion was based on the rectal examination, that we had an acute peritonitis, secondary to an appendicitis.

Treatment: Spinal anaesthetic, 4th lumbar interspace, 120 m.g. novacain. Abdomen opened with right para median incision. Intestines congested and distended. A perforated, gangrenous appendix was removed. Large amount of free fluid with slight odor. An ileostomy was made through a stab wound in the right flank. Abdomen drained by two rubber tubes and cigarette drain.

The culture of the pus from peritoneal cavity gave streptococci and B. Coli.

Post-operative treatment consisted of:

1. Fowler position.
2. Frequent intravenous saline of glucose and sodi bicarb of 500 c.c.
3. Introduction of saline through ileostomy tube q. 4 h, 6 oz.
4. Morphine freely.
5. Carbon dioxide and oxygen inhalation for hiccough, which was very troublesome.
6. Enemata freely after 12 hours.

The patient made a good post-operative recovery. The ileostomy has closed. The drainage sinuses have closed. The bowels are moving normally and there is no fever.

The chest signs were watched carefully throughout the post-operative course. As they at no time were increasing or presented evidence of embarrassment of respiration, no further active treatment was instituted. At present these signs have cleared up almost entirely and the X-ray confirms these findings.

I report the case as it is not frequently we have to deal with two separate major pathological condition. I think it shows again the danger of cathartics in cases of acute abdominal pain, and the real diagnostic value of a rectal examination in these cases. It also demonstrates the values of spinal anaesthesia and ileostomy.

C. E. KINLEY.

Service of Dr. Hogan.

APPENDICITIS

Mr. A. M. MacKay at present an interne in the V. G. Hospital, while on our service extracted from the hospital records details of a series of cases on which I had operated for appendicitis. Details of a few others were later extracted to bring the number to 150. It is thought that a short study of that data might be substituted for the usual case record from our service.

Of the number examined there were 81 males, 69 females. Of these the youngest was 4, the oldest 57, and the average age 23.8.

The pathological states were divided thus:

	Males	Females	%
Acute and Subacute including gangrenous and localized peritonitis Cases.....	44	43	58
Chronic—including recurrent or interval Cases.....	20	22	28
Localized Abscess.....	8	0	5.3
Diffuse Peritonitis.....	9	4	8.6
Deaths.....	2	2	2.6
Cases drained.....	27		18
Appendix not removed (Abscess Case).....	1		0.66
Appendix noted as "normal" (Post-Operative Clinical diagnosis)	2		

Incisions Employed: McBurney, 10; Battle, 1; Transverse, 2; Rt. Rectus (with outward displacement of Rectus), 137.

Complications Noted:

- 1 Pneumonia and Femoral Thrombophlebitis—Recovered.
- 1 Acute Confusional Insanity and pneumonitis—Recovered.
- 2 Pyelitis—One in case of very acute appendix c free bloody fluid, the other only moderately inflamed—Recovered.
- 1 Pregnancy—7 mos.—very acutely inflamed appendix — Recovered without mishap.
- 4 Wound Infections.
- 2 Haematomata.
- 2 Bronchitis.
- 1 Sinus—Case in which appendix not found in abscess cavity and not removed—Sinus 48 days.
- 1 Abdominal Cellulitis and B. Coli Septicaemia—Died.
- 1 Pneumonia—Died.
- 1 Adynamic Ileus—Died.

Deaths Reviewed.

I. Female, age 48, white. Appendicitis three days. Appendix perforated. B. Coli pus everywhere. B. Coli Septicaemia (Blood Culture).

Complication Wide-spread abdominal cellulitis. Most extensive suppuration in a very fat wall. Died 55 days after onset of illness.

II. Male, age 16, W. Perforated appendix with pelvis full of pus. Developed Lobar pneumonia and died in 5 days.

III. Male, age 22, W. Suppurative appendicitis with diffuse streptococcic peritonitis. Appendix grossly adherent. Very little pus but inflammation everywhere. Adynamic Ileus. Enterostomies proved useless. 4 days.

IV. Female, Indian, age 12. Admitted March 13th, 1933 at night. History was that on the preceding morning she collapsed while at Mass, and complained of abdominal pain. She had had a cold for a couple of days. Chest examination revealed an occasional rhonchus, and the intensity of the breath sound was diminished over the left lower lobe.

On admission, the interne noted rigidity all over the abdomen, but no pain, subjective nor objective. Seen shortly after, there was only moderate rigidity of both recti, and by the time the child was prepared for operation even this had disappeared. There was no abdominal tenderness. There was moderate tenderness high up anteriorly on rectal examination.

Chloroform Anaesthetic. Appendix was in front of terminal ileum, grossly inflamed and showing a gangrenous area 1 cm. in diameter at about its middle point. There was very little free pus, with very little odor, but the whole intestine was brick red in color. Appendix easily removed and abdomen drained.

Twelve hours later the child was quite bright. In a further twelve hours respirations had gone to 45, pulse and temperature elevated. A diagnosis of left sided lobar pneumonia was confirmed by Dr. Burns, and in less than twelve hours more she had gone rapidly down hill and had died.

This is the last appendicitis case done on our service, and though it adds nearly .7% to the death rate for this series, it is included to reiterate some points in child appendicitis which are common. (a) Lack of tenderness. (b) Absence

of localizing adhesions. (c) Fapid course. The passing off of the rigidity with advance of peritonitis, a common enough phenomenon, is also noted.

Regarding the whole series several points might be noted:

(1) Satisfaction with Rt. Rectus incision in most cases.
 (2) The value of Caecostomy—or ileostomy. This was frequently done in advanced cases and in others requiring much manipulation. Any regrets experienced were because it was not done oftener.

(3) The free use of fluids—Intravenously, rectally or through the Caecostomy tube.

(4) That a large number of the perforated cases had had cathartics, at least once, given at the onset of the pain.

N. H. GCSSE.

Dr. T. F. MEAHAN of Glace Bay has recently spent a vacation on a trip to the Bahamas recuperating after a somewhat serious illness.

Dr. T. H. Smith, of North Sydney was reported March 8th at his home residence on Pierce St., as being seriously ill. Dr. Smith is a graduate of McGill University in 1891.

Parson: "Rastus does that mule ever kick you?"

Rastus: "No, sah, he ain't yet, but he frequently kicks the place where I recently was."

Soprano: "I held a note for sixty-five seconds last night."

Jones:—"That's nothing, the bank held one of mine for three years."

The BULLETIN regrets to learn that Dr. T. I. Byrne, Deputy Minister of Health, spent the latter days of February and much of March, a patient in the Halifax Infirmary. We trust his convalescence has been wholly satisfactory.

The BULLETIN learned from the Provincial Press that the estate of the late Dr. E. V. Hogan has been probated, the beneficiaries being the widow, children and two brothers of the deceased. The estate was valued at \$53,000.00.

The BULLETIN regrets to learn that Dr. E. J. Johnston of Sydney, despite our own anticipation and his own perpetual optimism has not made as satisfactory progress towards return of good health as we had expected. We trust, however, that this same spirit of optimism with a certain amount of let up in the physical disability will result in his return to normal health.

Mrs. Muir, wife of Dr. W. L. Muir, is the new President of the Ladies' section of the Ashburn Golf and Country Club for 1933-34.

A distinct addition was made this year to the teaching of fourth year medical students when they were divided into sections and inspected dairies, restaurants, housing, etc., facilities and methods adopted by the Halifax Board of Health.

CANCER

THE Editorial Board has agreed that another section named as above should be added to our journal and with this number it makes its bow.

Various organizations interested in Cancer work have as one of their functions the dissemination of knowledge—the education of the medical profession and the lay public—in the newer or at least the more generally accepted truths in this field.

As interest has widened, and as research has proceeded, so the contributions to our knowledge have become more numerous until to-day a very extensive—albeit a frequently changing—literature is available to us, written by men of outstanding ability and unquestioned earnestness, who having for years been associated with the development of the subject still seek that knowledge and its dissemination which will contribute still more good to the cancer sufferer.

The research which seems to have contributed most good is that which is not so much of the laboratory as of the bed-side, and it is that side of cancer activity which is being more and more emphasized because it is that which at this time offers most in real results.

Speaking at the annual meeting of the American Society for the Control of Cancer in New York on March 3rd, last, Professor James Ewing, the world's best known tumor pathologist and Director of Cancer Research of the Memorial Hospital, after showing that laboratory research, employing the fundamental sciences in the search for the cause and nature of the cancer process, had not aided very greatly in the control of cancer, said:

“Nevertheless in the past 25 years there have been epochal advances in the knowledge and treatment of cancer, and the outlook for the cancer patient has been vastly improved. These advances have come from the work of a great number of physicians, surgeons, radiologists and pathologists who have made detailed and painfully slow contributions to the clinical knowledge of the general etiology, clinical course, diagnosis and methods of treatment of cancer. Clinical cancer research investigates more closely the various forms of chronic irritation, the many contributing and predisposing causes of cancer, and the history of the organ affected. Pathological diagnosis has become much more accurate, intelligent and refined, especially in pointing out the histogenesis of the tumors, the clinical significance, and the differences in grades of malignancy and radiosensitivity. X-ray diagnosis has become extremely accurate, illuminating, and generally indispensable. The physics of radiation has been pursued on an extensive scale, and radiation therapy has occupied the attention of many able workers in many fields, and now forms an important new branch of medicine with a vast literature, and an organization including local, national, and international societies. The dissemination of knowledge of cancer in the medical profession has become much more effective. To these departments of cancer research we must turn for the practical results of the past 25 years, and there is good reason to expect that they will continue to come from the same sources in the immediate future.

The attention of physicians, scientists, philanthropists, governments and institutions, that are looking for some great discovery which will solve the

cancer problem may well be drawn to this outstanding fact. The search for the cause of cancer has failed, but practical research directed to the cancer patient is making rapid, substantial and effective progress.

For the same reasons we believe that the American Society for the Control of Cancer

- * (a) By disseminating the knowledge of cancer among the laity,
- (b) By improving the education of physicians,
- (c) By extending and enlarging the education of medical students and,
- (d) By aiding in the better organization of cancer service, has done and will continue to do work of inestimable value in the progress of cancer control.

Now while all subscribe most heartily to the principles involved under each of those headings we regard it as the function or duty of this journal to be specially concerned with one, the second one. Accordingly we shall endeavour to reproduce or reprint in this section each month a short article or two in pursuance of that idea. We shall also welcome correspondence from any who have views to express critical or otherwise, or who wish to make enquiry upon any matter which might properly be dealt with in this section.

BIOPSY IN MAMMARY CANCER.

The extent and severity of the radical operation for mammary cancer calls for a positive diagnosis in every case. Since women are now coming earlier for diagnosis of mammary disease, and often before the characteristic clinical symptoms of established cancer have developed, the diagnosis of these conditions has become more difficult and biopsies are more frequently required.

The practice of removing apparently benign nodules from the breast in a doctor's office and waiting two or three days for a report from a distant pathologist often leads to serious situations, and, in the opinion of some surgeons, may imperil the patient's chances for a cure even by a radical operation. The mechanical trauma from such a biopsy may well dislodge cancer cells and cut across and loosen cancerous lymphatics, while the delay of some days gives opportunity for the dislodged cells to reach the distant lymph nodes. The hyperemia of the inflammatory process may also stimulate tumor growth and facilitate the local growth and even the dislodgement of more active tumor cells. There have been some observations which indicate that these undesirable events actually occur and it is reasonable to assume that they do occur. Therefore the conservative surgeon will not remove a tumor nodule from the breast except in a surgical operating room where he is prepared to have an immediate diagnosis made and the proper operation performed at the same time.

There is a difference of opinion regarding the best method of performing the operation for a biopsy of the breast. Some surgeons prefer to cut directly into the tumor, make the diagnosis on the gross appearance which is usually specific, or cut out a piece of the tumor for frozen section. If the tumor proves to be cancer, the wound is closed over a sponge soaked in 10% formalin. They then discard the instruments and gloves used in the exploration, prepare the skin anew, and proceed with the operation indicated. This is a very direct and expeditious method. It avoids much trauma inevitable in a local excision which requires cutting on all sides of the tumor nodule. In the case of bulky tumors it may be the best method.

*The tabulation is ours. Ed.

In the case of small tumors I think it is safer to remove the whole tumor, together with a wide area of normal breast tissue, using extreme care not to squeeze or roughly handle the cancerous mass. This procedure avoids cutting into cancerous tissue, and if it is done with extreme care not to squeeze the tumor, cancer cells should not be dislodged.

An experienced surgeon or pathologist should be able to recognize the great majority of malignant tumors of the breast by gross examination of the cut surface of the tumor. Unless he can do this it is obvious that the tissue chosen for microscopic section may not contain the malignant tumor. Therefore great importance attaches to the gross diagnosis, which should be relied upon wherever possible. The extent of the disease also can be told only by gross examination. The cicatricial character, resistance, opacity or translucency, and the chalky streaks of carcinoma are generally specific. Frozen section is therefore often unnecessary but should be made in all cases which are in any respect doubtful to the particular surgeon or pathologist concerned. This diagnosis should be made at the operation and the appropriate procedure carried out immediately.

There are some lesions in the breast in which it is difficult for any surgeon or pathologist to state positively whether the condition is malignant or benign. Hence the surgeon must not assume that by obtaining a microscopic diagnosis he has secured positive information. In such cases the clinical data, age of patient, extent and duration of the disease, condition of lymph nodes, and especially the gross characters of the lesion should be given much importance in the decision. Under these circumstances some surgeons would err on the side of caution and perform the radical operation. I believe it is unfair to the patient to perform a radical mastectomy unless the diagnosis of carcinoma is positive. There are many precancerous and suspicious lesions in the breast which are clinically benign, while a true carcinoma is nearly always obvious to a pathologist of adequate experience. When a substantial doubt exists about the nature of a microscopic section of a breast tumor, it is generally not cancer.

JAMES EWING, M.D.

An editorial in the *Bulletin* of The American Society for the Control of Cancer.

CANCER ACTIVITIES IN MANITOBA, AND CANCER PUBLICITY.

A report in a recent exchange under the caption "Cancer Activities in Manitoba" shows that that province has entered into intimate association with the American Society for the Control of Cancer. And knowing what we do of the activities of that philanthropic organization it is easy to commend their wisdom.

It shows in part, that "Dr. Neil J. MacLean, Chairman of the American Society for the Control of Cancer for Manitoba, has recently submitted an interesting report on cancer activities in his province. That a radium institute financed by the Provincial Government and under direction of the University of Manitoba supplies radium to physicians qualified by training and experience to use it properly."

May we be pardoned for suggesting that the idea advanced by us in this journal a year ago that we might with advantage have a "Nova Scotia Society for the Control of Cancer" finds endorsement in principle in this report?

It might be of interest to show that the New York City branch of the American Society at the annual meeting of the parent society last month

reported that during the year it had sent out 95,000 pamphlets, delivered 117 lectures to 13,000 persons, gave 10 radio talks, some of them on a nation-wide hook-up, and interviewed 1,210 persons.

The ultra-conservatism which characterizes this province causes us to look askance at such publicity, and it is not difficult to see that that conservatism must be modified before we shall see much improvement in our cancer figures.

In criticizing that, readers will do well to remember two things: (1) That the ultra-conservative position in this matter has been abandoned by some of the greatest and most conservative of clinicians—Bloodgood, Graves, Horsley, to mention three out of scores,—and (2) That the great improvement that has come about in American cancer figures is generally believed to have come from such abandonment. That's worth thinking about.

The physicians in the mining districts of Cape Breton have been having very hard sledding this winter, but it is gratifying to note that the miners themselves realize this and have endeavored to support their claims for the usual check off.

A recent caller at the office of the General Secretary, was Dr. H. N. McDonald of Whycocomagh, a graduate of Queens University in 1882 and elected to Honorary Membership in the Medical Society of Nova Scotia in 1932 after 50 years of practice in Cape Breton. The BULLETIN has already told its readers of some of his exploits of former days,—how he laid out John L. Sullivan and how he preserved order at a political meeting when Sir Charles Tupper was speaking against the late Dr. McLennan of Inverness. At the same time Doctors McDonald and McLennan were personal friends. Dr. McDonald expressed little pride in the fact that he took two primary years in Medicine. He said he was in the habit of spending about every other day in a gymnasium on Barrington Street conducted by Dr. McKay for whom he has the kindest recollections. There was not only height, weight and muscles behind his fistic activities, but scientific training acquired while, presumably, attending Dalhousie.

In order that many interesting items may not be entirely lost, the Doctor has promised in May next to furnish the BULLETIN with a number of other reminiscences which will be greatly appreciated by all our readers.

Since 20 years ago almost, much of our energies have been devoted to translating Doctors' reports. It was not so much a question as to their report on the individual as it was to what the hieroglyphics they used meant if translated into English. Of course, it's really a serious matter because prescriptions are very apt to be badly misused, unless the writing can be improved. On the authority of the A. M. A. Journal we are advised that at a recent conference on this matter one of the speakers told:

"Of a prescription which, after being used for the medicine, was used as a free pass on the Southern Railway, twice used as an invitation to a dance, once as an invitation to a society wedding, as a letter from a man's employer authorizing the cashier to raise his wages, and finally played by the man's daughter on the piano." Enuf said.

Department of the Public Health

PROVINCE OF NOVA SCOTIA

Minister of Health - - - HON. G. H. MURPHY, M. L. A., Halifax

Deputy Minister of Health - - - DR. T. IVES BYRNE, Halifax.

SPECIAL DEPARTMENTS

Tuberculosis - - - - - Pathologist - - - - - Psychiatrist - - - - - Supt. Nursing Service - - - - -	DR. P. S. CAMPBELL - - - Halifax DR. C. M. BAYNE - - - Sydney DR. J. J. MACRITCHIE, - - - Halifax DR. D. J. MACKENZIE - - - Halifax DR. ELIZA P. BRISON - - - Halifax MISS M. E. MACKENZIE, R.N., Halifax
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MEDICAL HEALTH OFFICERS' ASSOCIATION

President - - - - -	DR. T. R. JOHNSON - - - - -	Great Village
1st Vice-Pres. - - - - -	DR. M. J. WARDROPE - - - - -	Springhill
2nd Vice-Pres. - - - - -	DR. A. E. BLACKETT - - - - -	New Glasgow

COUNCIL

DR. F. O'NEIL - - - - -	Sydney
DR. R. L. BLACKADAR - - - - -	Port Maitland

*MEDICAL HEALTH OFFICERS FOR CITIES, TOWNS AND COUNTIES

ANNAPOLIS COUNTY

White, G. F., Bridgetown.
 Braine, L. B. W., Annapolis Royal.
 Kelley, H. E., Middleton (County) (No
 report from Town).

ANTIGONISH COUNTY

Cameron, J. J., Antigonish (County).
 MacKinnon, W. F., Antigonish.

CAPE BRETON COUNTY

Densmore, F. T., Dominion.
 Miller, B. F., New Waterford.
 MacKeough, W. T., Sydney Mines.
 Archibald, B. C., Glace Bay.
 McLeod, J. K., Sydney.

O'Neil, F., Sydney (Louisburg & C. B. Co.).
 North Sydney? (No report received as yet).

COLCHESTER COUNTY

Dunbar, W. R., Truro.
 Havey, H. B., Stewiacke.
 Johnson, T. R., Great Village (County).

CUMBERLAND COUNTY

Amherst? (No report received yet).
 Drury, D., Maccan (County).
 Gilroy, J. R., Oxford.
 Jeffers, Edward, Parrsboro.
 (No report for Joggins yet).
 Withrow, R. R., Springhill.

DIGBY COUNTY

DeVernet, E., Digby.
 Rice, F. E., Sandy Cove (County).
 Belliveau, P. E., Meteghan.

GUYSBORO COUNTY

Brean, H. J. S., Mulgrave.
 Smith, J. N., Guysboro (County).
 Moore, E. F., Canso.
 MacDonald, J. N., Sherbrooke (St. Mary's
 Mcpy.).

HALIFAX COUNTY

Halifax (No report received yet).
 Forrest, W. D., Halifax (County).
 Payzant, H. A., Dartmouth.

HANTS COUNTY

Bissett, E. E., Windsor.
 MacLellan, R. A., Rawdon Gold Mines
 (East Hants Mcpy.).
 Reid, J. W., Windsor (West Hants Mcpy.).
 (No report for Hantsport received).

INVERNESS COUNTY

Port Hawkesbury (no report received).
 (County) (No report received).
 McLeod, F. J., Inverness.

KINGS COUNTY

Cogswell, L. E., Berwick.
 Bishop, B. S., Kentville.
 Burns, A. S., Kentville (County).
 DeWitt, C. E. A., Wolfville.

LUNENBURG COUNTY

Davis, F. R., Bridgewater (County).
 Rehfuss, W. N., Bridgewater.
 Morrison, L. N., Mahone Bay.
 Zinck, R. C., Lunenburg.
 Zwicker, D. W. N., Chester (Chester Mcpy.)

PICTOU COUNTY

Blackett, A. E., New Glasgow.
 Chisholm, H. D., Springville (County).
 Bagnall, B. O., Westville.
 Trenton (No report received).
 Sutherland, R. H., Pictou.
 Whitman, G. W., Stellarton.

QUEENS COUNTY

Hennigar, C. S., Liverpool.
 MacLeod, A. C., Caledonia (County).

RICHMOND COUNTY

LeBlanc, B. A., Arichat.

SHELBURNE COUNTY

Brown, C. Bruce, Clark's Harbour.
 Churchill, L. P., Shelburne.
 Fuller, L. O., Shelburne (County).
 Densmore, J. D., Port Clyde (Barrington
 Mcpy.).

VICTORIA COUNTY

Gillis, R. I., Baddeck (Mcpy.).

YARMOUTH COUNTY

Blackadar, R. L., Port Maitland (Yar. Co.).
 Burton, G. V., Yarmouth.
 O'Brien, W. C., Wedgeport.
 LeBlanc, J. E., West Pubnico (Argyle Mcpy.).

"The Public Health Laboratory provides free diagnostic services on public health problems for the entire province. It is, however, to be regretted that misunderstanding exists among physicians as to the scope of this work. Generally speaking, this free service includes any examination that has a direct bearing on any problem of infectious diseases. At present this includes examinations of blood for Kahn test, widal test and culture for the Typhoid group; Cerebro-spinal fluids; smears for Gonococci; sputum, pleural fluid and pus for tubercle bacilli; throat and nasal swabs; urine and faeces for tubercle bacilli and typhoid; water and milk. Physicians desiring this service should address their communications to Dr. D. J. MacKenzie, Public Health Laboratory, Pathological Institute, Morris Street, Halifax, N. S.

Physicians desiring serums and vaccines should address their communications to the Department of Public Health, Halifax, N. S.

All specimens of tissue sent through Government owned or aided hospitals, shall be examined free of charge at the Pathological Institute, Morris Street, Halifax, N. S., under the auspices of the Department of Public Health.

Specimens should be addressed to Dr. Ralph P. Smith, Provincial Pathological Laboratory, Morris Street., Halifax, N. S."

**Communicable Diseases Reported by the Medical Health Officers for
the Period Commencing Feb. 23rd, 1933 until March. 22nd, 1933.**

County	Cer. Sp. Meningitis	German Measles	Chicken Pox	Diphtheria	Influenza	Measles	Mumps	Pneumonia	Scarlet Fever.	Paratyphoid	Tuberculosis, pul.	Tubep. other forms	Whooping Cough	V. D. G.	V. D. S.	TOTAL
	Annapolis.....	6	..	48	1
Antigonish.....	1	..	..	..	..	..	..	..	08
Cape Breton.....	1	1	..	..	1	..	..	1	5	..	..	..	..	..	..	23
Colchester.....	2	22	..	1	..	..	..	..	..	..	..	23
Cumberland.....	2	10	7	1	7	..	..	..	..	1	..	28
Digby.....	..	15	..	..	29	..	..	3	3	..	..	..	..	..	..	50
Guysboro.....
Halifax City.....	1	6	..	..	6	..	2	..	..	..	..	15
Halifax.....	1	2	..	4	..	..	9	..	..	..	..	..	..	16
Hants.....
Inverness.....	8	4	..	2	..	..	2	..	..	5	1	22
Kings.....	6	..	14	2	..	..	..	..	2	..	..	3	..	27
Lunenburg.....	2	..	..	2	..	..	..	..	2	..	..	6
Pictou.....	1	..	..	..	..	1
Queens.....	4	..	19	..	1	1	..	..	..	..	..	1	..	27
Richmond.....	2	..	..	..	..	..	..	..	..	2
Shelburne.....
Victoria.....	1	..	..	..	..	..	..	..	..	..	..	..
Yarmouth.....	1	..	..	..	2	..	2	1	..	..	..	6
TOTAL.....	1	15	17	2	125	48	10	12	33	..	9	1	2	10	1	286

RETURNS VITAL STATISTICS FOR JANUARY 1933.

County	Births		Marriages	Deaths		Stillbirths
	M	F		M	F	
Annapolis.....	11	9	6	16	10	1
Antigonish.....	9	9	5	17	14	1
Cape Breton.....	103	72	44	58	47	9
Colchester.....	26	23	8	20	21	4
Cumberland.....	35	41	18	16	24	4
Digby.....	13	20	5	14	7	2
Guysboro.....	9	11	10	9	6	4
Halifax.....	82	86	30	80	55	6
Hants.....	15	6	6	10	12	0
Inverness.....	10	11	9	11	13	1
Kings.....	32	27	12	33	13	1
Lunenburg.....	19	12	13	13	12	5
Pictou.....	31	17	16	24	23	1
Queens.....	15	6	5	2	7	0
Richmond.....	13	11	2	9	5	1
Shelburne.....	11	8	3	11	6	1
Victoria.....	15	6	3	3	2	1
Yarmouth.....	22	20	13	12	14	8
TOTALS.....	471	395	208	358	291	50
	866		208	649		50

Report on Tissues sent for examination to the Provincial Laboratory, from January 16th, to February 15th, inclusive.

The total number of tissues sectioned is 116. In addition to this, 19 tissues were sectioned from autopsies, making 135 tissues in all.

Tumours, malignant.....	9
Tumours, simple.....	11
Tumours, suspicious.....	0
Other conditions.....	59
Awaiting section.....	10—89

Unfortunately the giving of an accurate Diagnosis is hindered by many of the specimens arriving at the Laboratory unaccompanied by any history whatever. Often the source of the growth is omitted. A short note of the sex and age of patient, duration of tumour and any other relevant points in the history of the case would be much appreciated and would be of considerable help in the giving of a fuller report on Diagnosis and Prognosis.

Voting of Medical Freedom.

The right of a citizen to choose for himself what form of physical or mental healing he shall employ is so fundamental that restrictions upon it naturally provoke persistent controversy. Nearly every election in the United States sees this question agitated in one or more states.

Formerly it was most often raised in the form of legislation to limit the practice of healing to the allopathic school of medicine. However, that effort met with general failure, and to-day the movement of sentiment appears to be in a counter direction. The people are more frequently asked—usually under referendum or initiative provisions—to relax restrictions which have been placed on medical practice.

Endeavors to induce more states to adopt compulsory vaccination, compulsory immunization or health examinations have not been abandoned. But most of these efforts are in the direction of state medication, to enlist official authority to extend the use of certain systems rather than to bar other systems. The necessity for permitting healing by prayer as a matter of religious freedom has been almost universally recognized. And the trend is toward letting down, as a matter of medical freedom, bars once demanded against homeopathy, osteopathy, chiropractic and other non-orthodox methods.

The usual plan of those who have sought to restrict medical practice has been to set up examining boards which would license only those who could satisfy requirements demanding a complete knowledge of *materia medica* as taught in allopathic colleges. While the public has generally indorsed moves so to regulate medical practice as to protect the sick, it has rebelled at attempts to protect any one school of medicine from competition.

There is a growing disposition to permit various schools to set up their own examining boards. Thus in some states osteopaths and chiropractors, who give no drugs and perform no surgery, are not required to show a knowledge of such subjects. On the whole, this seems a reasonable way to solve the problem. The most effective protection against quackery is the enlightenment of the people. And those who believe that their own is the only correct method of healing have every right to contribute to such enlightenment by teaching and by publicity.

That consideration is one to be thoroughly weighed by the citizen who is called upon to vote on any question of medical liberty.

This is an extract from the Christian Science Monitor forwarded to the BULLETIN by Dr. C. A. Webster of Yarmouth. It has no endorsement by him other than its passing to the BULLETIN and is submitted without comment, for or against.

The Medical Society of Nova Scotia

President.....	DR. K. A. MCKENZIE, Halifax, N. S.
Vice-President.....	DR. A. R. CAMPBELL, Yarmouth.
General-Secretary.....	DR. S. L. WALKER, Halifax, N. S.
Treasurer.....	DR. W. L. MUIR, Halifax, N. S.

ANNUAL MEETING, SEPTEMBER, 1933.

THE REFORM OF MEDICAL EDUCATION.

THE Regular Correspondent of the *A. M. A. Journal* from London not long since made the above the chief topic of his letter. The opinions of two men are quoted,—Dr. Wilson, Dean of the Medical Schools of St. Mary's Hospital and Dr. Ryle, physician to Guy's Hospital. Dr. Wilson says,—“The medical curriculum is growing at such a rate that it will soon be no longer necessary to argue that it is unsound, for it will be physically impossible. Dr. Wilson's solution is that we should recognize that the making of a physician is not primarily a professional but an educational question.”

Dr. Ryle's opinion is thus reported by the correspondent:—

“The curriculum is overburdened and cannot be further extended; the student is compelled to memorize, especially in the preclinical period, a mass of facts and technicalities which are of small use to him afterward and are in large part rapidly forgotten; he is given too little opportunity for thought and observation and for self-training, so fully is his time occupied in “cramming” many subjects in order to reach a stipulated examination standard in each; he wastes many hours watching operations from afar which he will never be called on to perform or in regard to which he would do better to seek instruction in the postgraduate period. Finally, there is far too little interchange between his departments and periods of instruction, so that anatomy and physiology are less utilitarian and ‘applied’ than might be, and even pathology is acquiring the character of a special subject instead of remaining an integral part of medicine. There is a lack of co-operation between teachers in the various periods and the various subjects. Many teachers of anatomy, physiology and pathology instruct their students as though they too were destined to become anatomists, physiologists and pathologists, whereas nine out of ten will be physicians. Many clinicians adopt too low a standard in the study of evidence or, forgetful of the contributions of physiology to bedside medicine, neglect their opportunities of encouraging thoughtful applications of earlier training to the everyday problems of practice.

Dr. Ryle holds that our present failure lies in the following: Only three years out of the present six or seven are at present devoted to clinical study. We are insisting more and more on training in what may be called the “experimental method” and less and less in the “observational method.” Both are essential, but they should be complementary. No amount of education in physiology, pathology, bacteriology, biochemistry and radiology will ever make a physician. In these subjects, less detail, more broad principle and more applied study are needed. From a much earlier stage and in many ways closer contact is needed with the patient and the problems of the ‘living disease.’”

Health Insurance.

Vancouver Province:—We are not escaping the cost of unemployment in Canada simply because we have no unemployment insurance in effect. We are paying the bill in doles and charity on the one side and in suffering and undermined morale on the other. It is the same with health insurance. We may postpone action if we wish and say we cannot afford it. We go on paying the bill all the same, in undermined health and hospital costs and drugs and lowered efficiency. Neither a province nor an individual can escape a situation by merely ignoring it.

Correspondence

184 College Street,
Toronto 2, March 10th, 1933.

DOCTOR S. L. WALKER,
Secretary,
Nova Scotia Medical Association,
183 Hollis Street,
Halifax, Nova Scotia.

Dear Doctor Walker:—

RE INCOME TAX REGULATIONS

The enclosed is self-explanatory. A copy is being sent by the Government to every registered medical practitioner in Canada.

The Memorandum was worked out in conference between the Commissioner of Income Tax and ourselves, and it is the feeling of the Sub-Executive Committee of the Association that the information contained therein should be received with satisfaction by the profession at large.

Yours faithfully,

T. C. ROUTLEY,
General Secretary.

RETURNS BY MEMBERS OF THE MEDICAL PROFESSION.

As a matter of guidance to the medical profession and to bring about a greater uniformity in the data to be furnished to the Income Tax Division of the Department of National Revenue in the Annual Income Tax Returns to be filed, the following matters are set out:

INCOME

1. There should be maintained by the Doctor an accurate record of income received, both as fees from his profession and by way of investment income. The record should be clear and capable of being readily checked against the return filed. It may be maintained on cards or in books kept for the purpose.

EXPENSES

2. Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

- (a) Medical, surgical and like supplies;
- (b) Office help, nurse, maid and bookkeeper; laundry and malpractice insurance premiums. (It is to be noted that the Income War Tax

Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to the income);

- (c) Telephone expenses;
- (d) Assistant's fees: The names and addresses of the assistants to whom fees are paid should be furnished. This information is to be given this year on or before the 31st March, but on or before the last day of February in each subsequent year on Income Tax Form known as Form T-4, obtainable from the Inspector of Income Tax. (Do not confuse with the individual return of income, Form T. 1, to be filed on or before 30th April in each year);
- (e) Rentals paid: The name and address of the owner (preferably) or agent of the rented premises should be furnished. (See (j));
- (f) Postage and stationery;
- (g) Depreciation on medical equipment: The following rates will be allowed provided the total depreciation already charged off has not already extinguished the asset value:—

Instruments—Instruments costing \$50.00 or under may be taken as an expense and charged off in the year of purchase;

Instruments costing over \$50.00 are not to be charged off as an expense in the year of purchase, but are to be capitalized and charged off rateably over the estimated life of the instrument at depreciation rates of 15% to 25%, as may be determined between the practitioner and the Division according to the character of the instrument, but whatever rate is determined upon will be consistently adhered to;

The residual value of instruments not heretofore fully depreciated will be depreciated along with instruments costing over \$50.00 purchased subsequently;

Office furniture and fixtures—10% per annum;

Library—The residual value of library not heretofore fully depreciated will continue to be depreciated at 10% per annum for the years 1932, 1933 and 1934 as well as charging off the actual cost of books purchased in those years. After 1934, only the cost of new books will be allowed as a charge.

- (h) Depreciation on motor cars on cost; 20%, 1st year; 20%, 2nd year; 20%, 3rd year; 20%, 4th year; 20%, 5th year. The allowance is restricted to the car used in professional practice and does not apply to cars used for personal use.
- (i) Automobile Expense; (one car): This account will include cost of license, oil, gasoline, grease, insurance, washing, garage charges and repairs;

(Alternative to (h) and (i)—In lieu of all the foregoing expenses, including depreciation, there may be allowed a charge of 10c. a mile for mileage covered in the performance of professional duties).

If Chauffeur is employed for business reasons, so that in the result he is substantially used for business purposes (although incidentally used for personal or family use), the expense will be allowed.

- (j) Proportional expenses of doctors practicing from their residence—
- (a) owned by the doctor;
 - (b) rented by the doctor;
 - (a) Where a doctor practices from a house which he owns and as well resides in, a proportionate allowance of house expenses will be given for the study, laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, depreciation and interest on mortgage (Name and address of mortgagee to be stated);
 - (b) Rented premises—The rent only will be apportioned inasmuch as the owner of the premises takes care of all other expenses.

The above allowances will not exceed one-third of the total house expenses or rental unless it can be shown that a greater allowance should be made for professional purposes.

- (k) Sundry expenses (not otherwise classified)—
The expenses charged to this account should be capable of analysis and supported by records.
Claims for donations paid to charitable organizations will be allowed up to 10% of the income upon submission of receipts to the Inspector of Income Tax. (This is provided for in the Act).
The annual dues paid to governing bodies under which authority to practice is issued and membership association fees not exceeding \$100.00, to be recorded on the return, will be admitted as a charge.
The cost of attending post-graduate courses or medical conventions will not be allowed.
- (l) Carrying charges;
The charges for interest paid on money borrowed against securities pledged as collateral security may only be charged against the income from investments and not against professional income.
- (m) Business tax will be allowed as an expense, but Dominion provincial or municipal income tax will not be allowed.

PROFESSIONAL MEN UNDER SALARY CONTRACT

3. The salary of professional men will be taxed without any deduction therefrom except as hereunder provided unless the individual is under contract which requires of him, in order to maintain his contractual position to operate a motor car of his own, in which case if the principal does not pay the upkeep, running expenses and depreciation, the individual will be allowed to reduce the salary by such expenses as the use of the car in the earning of his income may cost, on the same basis as above provided for, i.e. expenses and depreciation or alternatively 10c. a mile for mileage covered in the performance of professional duties.

The annual dues paid to governing bodies under which authority to practice is issued, and membership association fees, not exceeding \$100.00, to be recorded on the return, will be admitted.

Dear Doctor:—

Did these pamphlets recently reach your desk and come to your attention?

Phenol and Almond Oil.

Ready to Use, Novasan Solution.

Metallic Bismuth.

“These pamphlets are members of a series which will be sent you from time to time. Please do not mistake them for ordinary advertisements”.

(Signed) SYNTHETIC DRUG COMPANY, LTD.,
243 College Street,
Toronto, Canada,
Midway 8055.

SOMERVILLE, MASS.,
Feb. 7, 1933.

DR. S. L. WALKER, General Secretary,
The Medical Society of Nova Scotia,
Halifax, Nova Scotia.

Dear Doctor Walker:—

I have yours of the 23rd ult. and I received the copy of Nova Scotia MEDICAL BULLETIN this morning.

It has been a great pleasure for me to hold, through the Valley Medical Society Membership, some form of professional connection with my old Province and I shall be pleased to further strengthen that connection by a BULLETIN subscription, provided you reverse the idea expressed in the last sentence of your letter which is that you will be glad to receive the three dollars and later send the paper, whereas, I shall be pleased to have the paper and later send the three dollars. Since 1904 I have not missed a year without a run to Nova Scotia and Halifax. Next year propose another visit and then I shall be pleased to drop in, see you and square accounts.

Very faithfully yours,
(Signed) T. H. MACDONALD.

RE MEDICAL RELIEF

184 College Street.
Toronto 2, March 22nd, 1933.

DOCTOR S. L. WALKER,
183 Hollis Street,
Halifax, N. S.

Dear Doctor Walker:—

Enclosed you will please find a copy of a letter which, under instructions from the Sub-Executive Committee of the Association, I have addressed to the Prime Minister, the Right Honourable R. B. Bennett.

It appeared to your Committee that this letter, to be of any possible value, must be sent without delay; and, therefore, no opportunity presented to get in touch with the Provincial Associations prior to making the communi-

caution. We trust, however, that with the spirit and import of the letter, you will agree. We are confident that there is nothing in our request that could be construed as adversely affecting the interests of any Provincial Association or the people of your Province. We trust that our action will meet with your approval.

Yours faithfully,

T. C. ROUTLEY,
General Secretary.

184 College Street,
Toronto 2, March 21, 1933.

The Right Honourable R. B. Bennett, K.C.,
Prime Minister of Canada.
Ottawa, Ontario.

Dear Sir:—

The Canadian Medical Association is a voluntary federation of the nine Provincial Medical Associations of Canada. In matters of national health interest, the Association endeavours to interpret and reflect the judgment of the medical profession of Canada as expressed in and through the Provincial Associations. At this time, I am desired by the Association to direct your attention to the following points:—

(1) During the present economic crisis, the Government of Canada of which you are the Prime Minister, has recognized its humanitarian responsibilities in providing relief for unemployed workers and their dependents.

(2) In the distribution of relief funds to the provinces, money is available for the provision of food, fuel, shelter and clothing.

(3) If we are properly informed, the provision of medical care as a charge against federal relief funds, is not admitted.

(4) In our opinion, medical care of those unfortunate citizens who are unable to provide care for themselves, is just as essential as any other provision which has been made.

(5) We recognize that the care of the indigent has long been considered in Canada as a provincial responsibility, but the Government of Canada has recognized, in recent crisis, that the provision of such care is a national obligation. This leads us to say that there appears to us to be no good reason why medical care should not be grouped with the other essentials and made available to all the needy of Canada as a proper charge against national funds.

(6) It is not overstating the fact when we say that the present economic situation tends to undermine the health of a very large number of our people, which fact must be construed as possessing the possibilities of a national menace. This is the time when every effort should be put forth to protect and preserve the national health. One very important step in this programme of protection should be the provision of medical care to all the people who need it.

(7) It is our understanding that, at the recent Dominion-Provincial Conference, it was recommended that medical care should be included under the Act providing national relief, which clearly indicates that the provinces have gone on record as approving of federal intervention into this phase of provincial health activities.

(8) Broadly speaking, hospitalization of the indigent at the expense of the province, or the municipality, or both, is apparently working out with reasonable satisfaction. It is, therefore, not suggested that this should be altered, or that additional federal funds should be provided for this service.

(9) One of the crying needs of the moment throughout Canada is the provision of adequate medical and nursing care to be carried out as far as possible in the homes of the unemployed, thus preventing, to a great extent, (1) human suffering; (2) human wastage; and (3) subsequent hospitalization at very much higher costs.

These are days when every self-respecting, self-sustaining citizen realizes his responsibility to the full amount, and there never was a time in the history of the nation, when it was more evident that the strong must bear a larger share of the burdens of the weak. The medical pro-

fession of Canada desires to go on record that it is endeavouring to the best of its ability to live up to the ideals and traditions of the profession in doing its share towards alleviating distress. There is a limit, however, to the giving powers of any individual, and the medical profession should not be expected to carry more than its reasonable share of the load of health protection. Most respectfully, Sir, do we urge that your Government should make provision at the earliest possible date, for the inclusion of medical care as a part of relief expenditures which are being provided for the several provinces of Canada.

All of which is respectfully submitted.

(Sgd.) T. C. ROUTLEY.
General Secretary.

Dear Doctor:

Did you carefully read our Post Card recently mailed to you in which we invited you to send for a sample of "Percainal Ciba". This is a bland, anaesthetic ointment of prolonged action indicated for the relief of pain and itching in haemorrhoids, eczema, ulcers, burns and similar conditions of the skin and mucous membranes.

Your very good BULLETIN friend,
(Signed) CIBA COMPANY, LIMITED,
1900 St. Antoine St.,
Montreal, Quebec.

MONTREAL, March 3rd, 1933.

Dear Doctor:—

We have sent you recently literature regarding our Gardenal, a superior brand of phenobarbital.

"Over the many brands of phenobarbital on the market to-day, Gardenal offers this advantage that it bears the guarantee of the manufacturer by which it is issued through the sole medium of our Laboratories.

You will secure the best possible results with Gardenal either in the treatment of epilepsy or nervous disorders in which it is indicated. If you wish to give it a trial, just return the enclosed card to us; a sample of the product will immediately be forwarded to your goodself.

We remain,

Sincerely yours,

(Signed) LABORATORY POULENC FRERES OF CANADA LIMITED.

P.S.—GARDENAL is well known to all drug houses of your city; most of them carry it in stock or could easily procure it from us.

Mental Hygiene Clinic.

There does not appear to be any good reason why a Mental Hygiene Clinic should not be established in Halifax. A Committee of which Dr. H. B. Atlee was named Chairman, with Judge Blois, Miss Ogden, Professor Page and Professor Prince as members, was recently appointed to give the matter consideration.

OBITUARY

OUR POLICY.

THE writing of obituaries as developed by the General Secretary is not the simplest matter in the realm of the BULLETIN activities. The available information on file regarding members of our profession is abominably insufficient. An effort was made to get some statistical records that could make some basis for such notice and it was almost a lamentable failure, not one-third of our profession responding. Thus the Secretary has to depend very largely upon newspaper reports and these are often not suitable to the pages of the BULLETIN.

Moreover the BULLETIN being a local and, more or less personal journal we naturally wish to say more about some things and less about others. With the newspapers it is different, they are catering entirely to the general public and view these matters entirely from their layman's point of view. As a matter of fact the prominence given to those who deliver oratorical prayers or eulogies is of less interest to our readers than the actual tributes paid to the deceased inspired by an actual knowledge as to the positive nature of the service, as a medical man, he rendered to the community and the profession.

Then again the Obituary Department of the BULLETIN has developed a very extensive space and effort to short notes regarding the decease of relatives of our Nova Scotia doctors. Does it not enkindle a kindlier feeling if a doctor in some small place in the Province receives through the BULLETIN an assurance of sympathy of his brother practitioners, in the passing of a wife or other near relative.

There are others again, in the allied nursing or dental professions who have, been well known by many of our members also sons or descendants of former prominent members of our profession to whom reference will recall to older men their reputable forbears. But beside all this there are often personal reasons why some one desires to make such reference and personal reasons why some desire to read them. True it is, that some obituaries go into pages and others get a short paragraph, while the actual services of the deceased may not fully correspond to this difference but *such is life*, and no Secretary or an Editorial Board of fifty could fully correct it. An occasional reference to the passing of a prominent member of the Profession in any Province in Canada, in the United States or elsewhere is always in order to which no one will object. The BULLETIN has endeavored, with hardly any support from the profession generally, to develop this Department of our Journal. From this time onward every member of the profession is reminded of his obligations to aid in this particular.

It would be invidious for the Secretary to mention names but some of our members have from time to time, been of great assistance,—they have our sincere thanks.

S. L. WALKER,
Secretary.

GEORGE DAVID STEWART, M.D., Bellevue Hospital Medical College,
1889, New York City.



THE LATE
GEORGE DAVID STEWART, M.D.

THERE are some things that are very hard to write about, and, outstanding among these, is the passing of those we have greatly admired and respected. In this instance four medical students lived and studied together in New York City in the term of 1888 to 1889,—the late Dr. G. M. Campbell of Halifax, the late Dr. G. D. Stewart, whose home address then was Malagash, N. S.; Doctors J. J. Cameron of Antigonish and Smith Walker then of Truro.

In this instance we very largely quote from others.

The following tribute from Dr. J. J. Cameron of Antigonish cannot be better or more tersely expressed.

Dear Dr. Walker:—

I need not tell you that the passing of Dr. G. D. Stewart was a great shock to me as to his friends everywhere. My classmate in Bellevue Hospital Medical College, my room-mate in 1889, the year of our graduation, I knew him well.

As a student and indeed all through his life he was a consistent and earnest worker with the best memory of any man I ever knew. At night, after attending four or five lectures he often repeated them almost verbatim. He was a great companion, a wonderful mixer. With the assurance of a peer, it was nothing unusual for him at the end of a lecture to step down to chat with the professor—to relate some anecdote or bit of humor that soon thawed the erstwhile stern and serious occupant of the chair.

His private life and character were unimpeachable. The Great White Lights of New York held no lure for him. He knew a better life, a better way to succeed. He knew he had "the goods," and by hard work and careful living could make the grade. Thus armed without any adventitious aid, with characteristic determination he marched step by step from promotion to promotion until he achieved every worth while distinction in the gift of his confreres. All this in a strange city without money or friends save what he could make or merit. But he did early love to talk of his native land and was always happy swapping yarns with some Bluenose versed in folklore and the customs of the people. The last time I saw him he asked about nearly everybody in Antigonish—especially odd or eccentric characters he knew while at College here, and seemed interested in their welfare. There are not many George D. Stewarts and the public as well as the medical profession to-day mourn the loss of a faithful servant, and friend. To his wife formerly Miss Ida M. Robb (in whose home, by the way, I lived for many years after her marriage), to his four daughters and especially to his aged mother to whose early training and gifts of intellect he owed so much—the mother he loved so well—the mother who watched with solicitude and pride the rise of her beloved son to distinction and fame, we extend our sincerest sympathy.

Yours sincerely,

(Signed) J. J. CAMERON.

From the many newspaper clippings noting his passing we note he died of Uremia after an illness of ten days. He was attended by six prominent New York physicians and one can hardly believe that his useful career could

not have been further extended. The Why and the Wherefore? Like many other Nova Scotians aspiring for a profession, he too, taught school and we are not sure that he did not teach while a student at Francis Xavier College. We have the impression that while teaching there Miss Ida M. Robb was one of his pupils. He married her in 1890.

From a New York Daily the following is quoted:—

"Dr. Stewart was a former President of the New York Academy of Medicine and the American College of Surgeons and he had held many other positions in important groups organized by medical men. He did his greatest work, however, as head of the department of surgery at New York University and Bellevue Hospital Medical College, where his abilities in training young surgeons led the late George F. Baker to give \$1,000,000 to New York University in 1929 to found the George David Stewart Endowment for Surgery, Dr. Stewart was for many years Mr. Baker's physician.

"Dr. Stewart was born in Cumberland County, Nova Scotia. After receiving his preliminary education at Truro he studied at St. Francis Xavier's College here taking next the course at Bellevue Hospital Medical College, where he obtained his M. D. degree in 1889. He served his internship at Bellevue Hospital and had remained there ever since, becoming professor of surgery at the college and surgical director of the hospital, and in 1916 head of the surgical department.

"Dr. Stewart contributed many articles to medical journals. He was particularly known to medical men in New York for his facility in after-dinner speaking. In late years his age did not keep him from making three or four addresses a night at dinners and meetings."

One would be inclined to say that Dr. Stewart was not what we often in our ignorance term a religious man but if there was one book more than another which he prized it was the Bible. With his marvellous memory he delighted particularly in reciting many of the Psalms, and telling their *beauty* when so doing. The work of such a man does not stop for years, perhaps never, and we are proud he was a friend to so many of us in Nova Scotia. It was with the deepest sincerity that the Medical Society of Nova Scotia extended sympathy to his mother, Mrs. McNab of Malagash, now, in her 91st year, mourning his departure.

ALEXANDER S. MacNEIL, New Waterford, N. S.

The General Secretary of the Medical Society of Nova Scotia desires to go on record as paying a sincere tribute of respect to the late A. S. MacNeil of New Waterford. Certainly no other man in Nova Scotia began life as quietly and humbly as a miners helper while still a boy and became as well and as favorably known by both Capitalist and Labor as did Mr. MacNeil. From the bottom to the top was the record of A. S., and no knockers because human sympathy, fairness and justice marked all his activities. We first went to his hospitable home when in the service of the D. S. C. R., for whom Miss M. B. MacNeil was one of the most efficient Nurses that organization had. After that first time we simply went there as a matter of course. Sincere hospitality was the motto at the MacNeil household. Two daughters of the deceased were members of the nursing profession, one being the wife of Dr. F. E. Fultz of Glace Bay.

In all probability no laymen had more medical friends than A. S. MacNeil and the profession will endorse the message of sympathy that was sent to his sorrowing mother, widow and family. Miss M. B. MacNeil, a nurse at the Nova Scotia Sanatorium is a sister of the deceased.

The BULLETIN regrets very much to note that on the 13th day of March, Alpin Seafeld Grant son of Dr. and Mrs. H. A. Grant, Big Bras d'Or, Nova Scotia, passed away aged 16 years. All members of the profession will join in extending to Dr. and Mrs. Grant sincere sympathy on this sad occasion.

In the death of Dr. L. H. Price at the Moncton City Hospital, March 1st, the city of Moncton, the County of Westmoreland, and the Province of New Brunswick, loses a man very definitely concerned with the best interests of his native province. He was really one of the outstanding figures in the profession not only on account of his professional abilities and activities, but also because he took a very considerable interest in the general affairs of his State and Province. Many members of the Medical Society of Nova Scotia have met Dr. Price and will greatly regret that he has been taken from us.

Dr. F. H. Lahey of the Lahey Boston Clinic in a recent letter to the General Secretary of the Medical Society of Nova Scotia writes:—

"We were all very much distressed to hear of Dr. Hogan's death. He was such a kind friend of mine, and it was a great blow to every one in the Clinic. I have written to Mrs. Hogan and we are all very sad to hear of his demise."

The BULLETIN greatly regrets announcing the death at Bridgetown on March 2nd, of Mrs. Nora White, wife of Dr. G. F. White of that town. Mrs. White had been sick a few days with influenza and unexpected complications developed causing her death. Since coming to Bridgetown some five years ago from Kent, England, Doctor and Mrs. White and family, made many friends in their adopted home. Doctor White at once took an active part in the meetings of the Valley Medical Society and the Medical Society of Nova Scotia, contributing case reports and taking part in the discussions. Besides Dr. White the deceased is survived by two daughters, Mrs. (Capt.) Bing-Hall and Miss Honor.

She is also survived by her mother Mrs. V. E. Mason of Phinney's Cove, Annapolis County, but who was unfortunately unable to attend the funeral of her daughter owing to the snow blockade of the roads on the mountain. Mrs. White took an active part in the work of St. James Church, was a President of the Girls Guild, and active in relief work for some months past. A gracious personality, a helpful and sympathetic spirit endeared her to the circle of her friends and acquaintances.

To Dr. White and his daughters and to Mrs. Mason, members of the Medical Society of Nova Scotia extend sincere sympathy.

At Loch Lomond early in March there was laid to rest an estimable lady Mrs. McKeigan, mother of Dr. John McKeigan of Dominion No. 6.

Preventing NUTRITIONAL ANEMIA in Infants through a Normal DIETARY REGIMEN

NUTRITIONAL anemia was present in 45% of the breast-fed and 51% of the bottle-fed in a group of more than 1,000 infants studied by Mackay.¹ Although this anemia was of mild degree, it was sufficient approximately to double the morbidity among the artificially fed.

Anemia Prevalent

Commenting on this work, the British Advisory Committee on Nutrition writes, "This form of anaemia is prevalent among infants, especially those living under conditions of city life, and is attributed to a deficiency of available iron and possibly also of copper. Its most important feature is susceptibility to infection, particularly a liability to colds, otorrhoea, bronchitis, and enteritis, and a tendency for infections to become chronic."²

Iron, incorporated in powdered milk, should be given as a routine to bottle-fed infants, according to the recommendations of this committee in a report to the Ministry of Health.

Milk Deficient in Iron

Stored in the liver of the full-term infant is a supply of iron and copper theoretically sufficient for the first six months of life. But actually the reserve is subject to wide variation,¹ probably because of variations in the iron content of the mother's diet during pregnancy. Hill, for example, says, "If the mother is anemic herself, or if she has eaten little iron-containing food during the last months of pregnancy, her offspring is born with an insufficient iron deposit. . . ."³

	IRON	COPPER
Cow's Milk, 20 oz.	1.44 mg.	0.24 mg.
Dextri-Maltose with Vitamin B, 1½ oz.	3.60	0.855
Mead's Cereal (dry), ¼ oz.	1.70	0.09
	<u>6.74</u>	<u>1.185</u>
Daily Requirement*	4.18	"traces"

When ¼ oz. of Mead's Cereal is fed to the 3-months-old infant receiving 20 oz. cow's milk and 1½ oz. Dextri-Maltose with Vitamin B, a significant increase in iron and copper takes place.

containing standardized amounts of this mineral together with copper, can be administered as early as the third month. Clinical studies by Summerfeldt⁵ show that Mead's Cereal is capable of increasing the hemoglobin percentage of growing children.

* The desirable iron intake for children, according to Rose *et al.*, is 0.76 mg. per 100 calories. Infant of 1 month (8¼ lb.) and infant of 3 months (11¼ lb.), both require 50 calories per lb.⁶

¹⁻⁶ Bibliography on request.

MEAD JOHNSON & COMPANY OF CANADA, LTD., Belleville, Ont.

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons