The Toxaemias of Pregnancy*

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UNDER the heading of Toxaemia of Pregnancy have been grouped many diseased conditions which have but one thing in common, namely a pregnancy with its associated toxic state. It is only in the very recent years that an endeavour has been made to divide scientifically the larger group into some of its component parts.

Firstly we must know that every pregnant woman is a toxic woman and that she possesses great potentiality for developing pathological states. Our only hope of coping with the disastrous results of toxaemia of pregnancy lies in close antenatal observation and early recognition of incipient pathological states. Early recognition of incipient stages is of the utmost importance, and response to treatment is almost proportional to earliness of its application. Hence the importance of early diagnosis. Experience in diagnosing these incipient cases permits of earlier recognition and, consequently, greater success. To-day ante partem clinics in Montreal are so easily accessible to patients in all parts of the city that the grave results of toxaemic states are quite rare except in cases of culpable neglect on the part of patients. Most of the cases of grave toxaemias in the hospitals are drawn not from the clinics where they are under careful and experienced observers, but from outlying and country districts where ante partum care is almost impossible owing to lack of knowledge and great rural distances.

The origin of the poisons of pregnancy is not known. The many theories bearing upon the subject only confirm our ignorance of the subject. We do know, however, that it is a complication of pregnancy and therefore its origin is intimately bound up with the pregnancy, i.e. with the advent of the foetus or its appendages mainly the placenta and membranes. I think this is as far as one is justified in venturing an opinion with our present imperfect knowledge.

For convenience of treatment it will be well to adhere to the time honored subdivision of toxaemias into those of the first half and those of the second half of the pregnancy. According to some authors this is a purely arbitrary subdivision, but it is my opinion that this subdivision is based upon sound clinical observation.

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Toxaemia of the First Half of Pregnancy.

It is not my intention to deal with the subject in the ordinary textbook method. Let us omit much that is and has been fixed knowledge, and deal with the subject from the point of debatable ground. Clinicians divide the cases into true toxaemias of pregnancy, and neurotic vomiting of pregnancy.

It is doubtful whether this subdivision serves any very useful purpose. It is doubtful whether even a true toxaemia of pregnancy without an element of neurosis superadded ever exists in the human race. And it is equally doubtful whether true neurotic vomiting of pregnancy occurs without a basic element of toxaemia. So that it becomes our duty not to place any given case in either of these two categories but rather is it our duty to determine the relative proportions of both these factors in any case under observation. True, veterinary surgeons meet with vomiting of pregnancy in some of the higher vertebrates, but this only confirms the views expressed above.

It is not easy in any case, except after prolonged observation, to determine how much of the vomiting is neurotic and how much of it is toxic. But the great frequency with which patients cease to vomit immediately upon being transferred to a hospital environment has led certain authorities to deny that there is such a thing as a true toxaemia of early pregnancy. There can be no doubt that the neurotic element is large in nearly every case if not in every case. I have been struck with the frequency with which one finds complete freedom from the so-called symptoms of toxaemia in elderly primipara who have waited long for the gratification of maternal yearning. It is exceptional in my experience to find severe, or even mild, toxic symptoms in such cases. The mental satisfaction of accomplishment seems to be the dominant force.

Upon first thought it would seem that this would be a severe blow to the toxaemic theory. But upon second thought it only confirms the hypothesis that mental states modify symptoms. Expressed otherwise, difficulties fade into insignificance in the sunshine of contentment, but are magnified into bowels of compassion in the night of fear, doubt and unhappiness.

Once the initial symptoms have set in there is no limit to which the superadded acidosis of starvation may not progress. A vicious circle is soon established which beginning with vomiting (neurotic or toxaemic) produces starvation which in turn leads to acidosis. This acidosis leads to further vomiting, starvation and greater acidosis, and so the vicious circle goes from bad to worse. This must be broken before the patient can recover. Otherwise the end is acute yellow atrophy of the liver and death.

What do we know clinically about the toxaemia of pregnancy? Nothing except by its close resemblance to certain abnormal or therapeutic agents. We all know that certain chemical or metabolic

elaborations choose certain paths for their elimination from the body, and the degree of concentration of these will determine the degree of irritation produced upon the specific organ of elimination.

Let us look more closely into this matter. A dose of oil of turpentine, given in any way you wish, is eliminated chiefly by the kidneys, and the degree of damage to kidney set up by the elimination will depend not so much upon the dose but upon the concentration of the poison at the time of elimination. Sugar, in strong, concentration in the blood leads to nephritis which is an expression of its elimination in concentration. Dilute solutions do not produce appreciable evidence of irritation. Arsenic given to a nursing mother is eliminated by the breasts and will produce arsenical poisoning in the nursing child. This is mentioned just to emphasize the various paths chosen by specific poisons. Morphine given hypodermically is in great part eliminated into the stomach and small intestine and may produce vomiting, upon awakening, closely resembling that of the early toxaemia. Here lies a close parallel. The toxaemia of early pregnancy would seem to be excreted by the upper alimentary tract, and accumulates in concentration during the sleeping hours, when food is not ingested, and peristalsis is quieted. The vomiting of a glary fluid ensuing upon assuming the erect posture permits of an easy explanation.

Now the foregoing facts suggest the treatment. In the milder cases do not allow the stomach to be empty for long intervals. Food should be taken every two or three hours by day and a light form of food upon retiring, and a certain agreeable dietary should be available to be taken through the night should the patient awaken. All this for the purpose of activating peristalsis and the propulsion of the poisons along the alimentary tract for elimination. Mild cathartics at bed time materially assist, and the ingestion of large quantities of fluid, preferably water, will further assist.

Kidney function hardly comes into question in the cases of toxaemia of the first half of pregnancy. The toxaemia spends its nocuous results upon the alimentary canal.

When the vomiting persists and becomes a factor in interfering with nutrition a new disturbing element is brought into the clinical picture. This is acidosis. The susceptibility of individuals to acidosis differs very markedly. One sees this after operations. Some will develop acidosis after the slightest narcosis. Whereas others never show the slightest tendency to acidosis under the most (usually) provocative influences. It is impossible to offer an adequate explanation except the covering of explanation of idiosyncrasies—a term which covers a multitude of ignorance. Over indulgences, sedentary life, mental activities, physical exertions—none of these seem to be determining factors.

When acidosis becomes a factor, the vicious circle described above becomes the dominant factor. This circle must be broken. There is nothing so effective as intravenous glucose saline. The most

efficient concentration and dose I have found to be 500 c.c. of a 10% glucose saline.

It behooves me to sound a few notes of warning. Do not use these solutions in larger amounts than that given above. One may perhaps go to 700 c.c. in large women. The degree of dehydration preceeding the intravenous will offer itself as a guide to the quantity of solution to be used. It is better in most cases to be content with 500 c.c. with the intention of repeating after a few hours. In the meantime one may note the elimination. I have seen the tissues of patients who have died after large doses of intravenous solutions and the tissues have become waterlogged—I am certain a condition much to be deplored.

The improvement is usually prompt, but it may only be transitory. This is an indication, to repeat the treatment. Often it is only after the second, third or fourth injection that the improvement is permanent. In one classical case the injections were in the twenties with ultimate cure.

Sodabicarbonate in small doses by mouth is indicated. If not tolerated, drachm doses dissolved in four ounces of water by rectum every four hours is often very efficatious. Bromides added to this when there is indication will often act beneficially.

Where glucose saline for intravenous use is not available, the Murphy drip has been put into practice, as a second best means of introducing glucose into the system. I have used it and have seen it used in a large number of cases and in not one have I seen any benefit. On the contrary the patients complain bitterly of the treatment. They all state that it aggravates the symptoms and they beg to be exempted. We know that concentrated solutions of sugar (over 5%) have a stimulating effect upon the lower bowel, and I think it is the effort to expell this irritating sugar solution that causes such crampy, uncomfortable, even distressing symptoms.

Just a word of caution before closing this chapter. Higher percentages of glucose have been used intravenously with, I think, advantage, and to heighten the sugar retention the sugar percentage has been increased by the use of insulin simultaneously. The procedure requires a great deal of care and fatal results are recorded owing to its indiscriminate use.

Toxaemia of the Second Half of the Pregnancy.

Under this heading is grouped a number of allied conditions which must be intelligently grouped to be appreciated properly. Our present knowledge permits us to form three great divisions of these cases:

1. Cases of chronic nephritis complicated by a pregnancy and its added toxaemia.

2. True toxaemias of pregnancy known as the preeclamptic toxaemias. These are subdivided by their symptoms into four clinical types:

(a) Nephritic
(b) Hepatic
(c) Haemorrhagic
(d) Cerebral

3. Toxaemias of kidneys of low reserve.

1. **Nephritis complicated by Toxaemia of Pregnancy.** These cases comprise more than half of the so-called toxaemias of the second half of pregnancy. The symptomatology in the early stages resembles that of true toxaemia. The cases are those in whom a true nephritis antedates the pregnancy. I fancy it is misleading to speak of these cases as nephritic, because the majority of them do not show signs of nephritis before the pregnancy takes place. Doubtless a multiplicity of pathological conditions of the kidney falls under this group. So that I prefer the term Chronic impaired kidneys as covering all the types of kidney disease. Many of these cases have suffered from scarlet fever or any of the acute fevers. Others are the result of early arteriosclerosis. Still others are acute nephritis induced by causes other than pregnancy. The symptoms, course of disease and final results are strikingly similar, no matter what the lesion of the kidney. The interesting part about the cases is that in a vast majority of these cases the kidney lesion is not diagnosable except under the stress of pregnancy. There are thousands of women going about their daily duties, in perfect health, quite unaware that they have impaired kidneys. In a small percentage of these cases you can demonstrate the impaired function of the kidney as evidenced by a trace of albumin, a few casts and perhaps a few blood cells. But in the very vast majority of cases the minutest tests will not give the slightest inkling of disease. What we lack most is an efficient test for the kidneys whereby we could assure prospective mothers that their reserve is sufficient to warrant a pregnancy and labor without undue risk. Then we might go a step further and require the same assurance as regards the liver and the brain, that they too could stand the strain.

I think perhaps the Mosenthal test of the urine, to determine the concentration powers of kidneys, gives one the earliest reliable information upon such cryptic kidney impairment.

Depending upon the degree of damage sustained by the kidney the decompensation of the kidney will manifest itself early or late in the pregnancy. Needless to state the greater the previous damage to the kidney the earlier in the pregnancy will symptoms appear. If symptoms appear only in the last month of pregnancy, in the first pregnancy, they will appear earlier in each subsequent labor owing to the infliction of a quota of damage by each pregnancy together with the added effect of the wear and tear of the intervening years.

Doubtless it will appear to most of us that the added load of an average six pound child should not be a very great burden. But this is not the proper view point. Physiologists state that cell differentiation and division (metabolism) is 25 times more rapid in the

embryo than in the adult. If this is the case then a woman is doing the elimination work of 5, 6 or 7 lbs. multiplied by twenty-five. Add to this the ordinary toxaemia of pregnancy (for every pregnant women is toxic) and we have a nearer appreciation of the load of the maternal organism.

Let me describe a typical case of chronic impairment of kidney function without complicating the picture unnecessarily by superadding a toxaemic state arising out of the pregnancy.

Usually the first sign is a slowly rising blood pressure. The pressure rises slowly but steadily from its earliest appearance. There is, to a sensitive physician, something characteristic and formidable in this type of blood pressure. It is so insidious; it is so persistent; when the patient is put under treatment it usually falls for a few days and then comes back again in full strength. There are no marked remissions. High pressures of 150 diastolic and 250 systolic are frequently steadily maintained for weeks. Haemolysis follows quickly and the patients soon show signs of grave anaemia. This is, I think, the second and most constant sign. Later, headaches develop, followed occasionally by gastro-intestinal disturbances. Oedema is rare and usually slight if at all present. Puffy eyelids are seldom seen. The urinary findings are extremely variable. In the interstitial types of kidney disease there will frequently be a total absence or but the merest trace of albumin, an occasional granular cast, but a constant low specific gravity urine with a low concentration index as indicated by the Mosenthal. In the parenchymatous type albumin may be abundant, casts in large number, blood cells and high concentration. So the urinary picture varies according to the kidney lesion. Chemical examination of the blood usually shows retention products due to faulty renal elimination.

Impaired vision frequently develops, and it is due to albuminuria retinitis as in ordinary nephritis, and normal vision is seldom completely restored.

As the impaired kidney function declares itself more and more, interesting changes take place in the placenta. As the pregnancy progresses the substance of the placenta becomes progressively more invaded by white infarcts, and as the functioning part of the placenta becomes more and more encroached upon by the spreading of the infarcts, the child suffers as to its nutrition and its aeration and elimination. The foetus grows weaker and weaker and eventually succumbs, and becomes macerated. The mother often states that as the weakness of the child progresses its movements grow more infrequent and weaker and eventually stop. This is one of the most common causes of death of the foetus in utero, and has always to be taken into account when summing up a case of this character. Should the child be born before death overtakes it, it is emaciated, weak and senile-looking. They generally thrive if they survive the ordeal of birth, showing that their organs are not so severely damaged as the general condition might lead one to believe.

Of course it is easy to understand that cases of nephritis complicated by a pregnancy, suffer not only from the physical effects of the double work of metabolism of the mother and child, but there is superadded in every case the toxaemia incident to every pregnancy. This last factor may be so masked by the nephritis as to be inappreciable. In others it is more pronounced, and in others the toxaemia state may be so dominant, as to mask the nephritis. This last possibility is, I think, a rare accident. One would imagine, caeteris paribus, that women affected by an antecedent nephritis would be more prone to manifest the grave symptom of true toxaemia of pregnancy. But this is one of the peculiarities that this rationale is not borne out by experience, at least not by my experience.

The improvement which these cases show in the first few days of treatment and then the relapse to their status ante quo, and the slow insidious progress of the disease, is characteristic of this condition.

Prognosis—The Mother. The nephritis which is the primary underlying lesion, is usually chronic. It may date back many years. Her renal function may have been impaired but slightly, or kidneys may have been seriously involved at the outset of the nephritis. In the graver forms the symptoms of renal incompetency declare themselves early in the pregnancy. If they have but slight impairment the renal decompensation will manifest itself in the later months only. In the former cases long months of relative renal insufficiency will damage the kidneys still further and very severely and the state of that woman is much worse at the end than before the pregnancy. In our pride of accomplishment I have seen many such cases kept in bed for months on a milk or very restricted diet in the hope of carrying to full term or only viability. You can see these patients becoming emaciated day by day, the blood pressure rising higher daily reaching frequently between 200 and 300 systolic, and in the end a dead baby is born, and the mother's life is shortened by many years, if not actually shortened to a very few years.

In some cases of course, the patient takes matters into her own hands and decides the matter for herself in spite of counsel. This happened in two of mine. In the first instance I lost both mother and child, and in the second case the mother escaped when the situation seemed hopeless and the child was born so weak and emaciated that I had absolutely no hope of its ever being able to dilate its air cavities. But it survived and is now a vigorous infant. I have since sterilized the mother.

We owe it to these patients to lay all the cards on the table, stating the amount of damage already suffered by the kidneys, the approximate damage to be expected by continuing this pregnancy to viability or full term, the chances of the baby succumbing at any stage, and the ultimate impairment to be expected by this and each subsequent pregnancy. The follow up system has nearly always demonstrated that though these cases were free from signs of nephritis

before the pregnancy, one year after the pregnancy the majority show elevation of blood pressure and more or less definite signs of vasculo-renal disease.

At once the question of sectioning the tubes to prevent further pregnancies comes to the fore and must be discussed with the patient and her husband. It is a weighty problem—one that costs a multiparous or uniparous patient a very great deal of anxious thought and it behooves us to be sure of our premises as far as science will permit.

Treatment. These cases come under the accepted treatment for cases of nephritis. A protein-free, salt-free diet, of milk at first and carbohydrate and fat additions later is strongly recommended. Mild catharsis and general hygiene, with maintenance of body heat are essential. There is added of course the question of the pregnancy. In the later months of pregnancy, notably after viability, the question will arise at once whether it is in the interests of both mother and child to allow the pregnancy to go to full term or recommend artificial induction both for the mother's improvement and in the hope of getting a living child.

In respect of these two questions each case must be judged upon its own merits. If the kidney insufficiency has declared itself already for a considerable period, if the anaemia is pronounced, the blood pressure high and sustained, I think there ought to be no question about bringing on artificial labor to save the child and prevent irreparable damage to the mother. If the case is seen before viability and the decompensation of the kidney is not very pronounced, and especially if the mother is a primipara (she is not likely to have any other children) the case may be carried to and slightly beyond viability for the purpose of artificial induction.

On the other hand cases of severe decompensation, manifested by anaemia and high systolic and diastolic blood pressure, demand surgical intervention. A not infallible yet very good clinical guide is found in the earliness or lateness at which the symptoms of decompensation declare themselves. Evidence of decompensation early in the pregnancy means gravely affected kidneys and vice versa.

What method is to be recommended for surgical intervention? If, owing to kidney insufficiency, a woman cannot carry her pregnancy to a finale, the chances of her ever doing so in a later pregnancy are hardly worth considering. The damage of the present pregnancy added to the effect of wear and tear of the interval, make a possible future pregnancy a great menace. So it behooves us as physicians to weigh these cases very carefully, taking into consideration every possible factor, and if it is desirable that future pregnancies should be prevented, and if the patient's present condition does not contraindicate it, Caesarian Section with Sterilization by sectioning of the tubes should be the operation of choice, especially in the baby's interests. On the other hand should the patient's condition warrant only the smallest intervention at the time, premature induction followed

by sterilization several months later, will appeal to the conservative as rational. Naturally the facilities at the surgeon's disposal must ever be a great determining factor.

Prognosis. It is difficult to prognosticate in every given case as to the length of life that may fall to the lot of any given case. I have many of these chronic nephritics who are still alive and well, with only a slight blood pressure, and generally good health, for many years after several attempts, some successful, some unsuccessful, to have children, followed by sterilization. I saw one just five days ago. She comes regularly for examination. She enjoys good health, still has signs of nephritis and yet she was sterilized in 1912 after three unsuccessful attempts to carry to full term. Most of them succumb in much shorter periods, due to accidents arising out of cardiorenal changes.

2. Toxaemia of Pregnancy—Preeclamptic Toxaemia. Cases of true toxaemia of pregnancy have undergone a great change in recent years. We see an equally large number of toxaemias of the milder types, but on the other hand eclampsia, which is the climax of a true toxaemia, has become relatively rare. The toxaemia of pregnancy which leads, if neglected, to eclamptic seizures is spoken of as preeclamptic toxaemia to distinguish it from the other types, namely the nephritic or the toxaemia of low kidney reserve.

The incidence of Eclampsia, as a sequel to preeclamptic toxaemia, has fallen very markedly owing to the diffusion of knowledge among the laity, and owing to the careful observation of expectant mothers in the maternity clinics, and the easy accessibility of these to the pregnant woman. There is probably no type of case that responds so readily to treatment as the preeclamptic and the reward, namely, the prevention of such a cataclysm as convulsions, more than justifies and repays every effort.

The early recognition of the preeclamptic states is the determining factor in avoiding eclampsia, and the response is so uniformly gratifying, especially when properly grouped, that the incidence of eclampsia nowadays is limited to cases who are inaccessibly far from medical advice, or to cases who have not learned the danger signals of toxaemic states. The development of eclampsia, except in a few cases as will be described later, usually means culpable negligence on the part of physician or patient. In nine such cases out of every ten the neglect is due to the patient's own gross indifference or ignorance.

So far as we know the toxaemia of pregnancy is a general toxaemia, poisoning the blood and lymph and bathing all the tissues equally. But the susceptibility of the different tissues to take harm from this toxicity varies very considerably, and is one of the great factors in determining clinical types. The other determining factor is found in the irritation produced upon certain organs of elimination in their efforts to excrete a toxic product in concentration. To these may be

added a third factor. I am of the opinion that the composition of the toxic substance of pregnancy is a very complex one. As something approaching an analogy let me mention the complexity of composition of thyroid activity and its protean clinical manifestation when in excess of body needs.

We may recognize four clinical types of preeclamptic toxaemia. These are all manifestations of the one toxic state, but owing to the factors mentioned above one system may be affected more than another, and the breaking down of the function represented by that system determines the clinical type.

(a) **The Renal Type.** In this type we meet all the signs of a more or less acute nephritis. In the early cases the blood pressure begins to rise and with it there are signs of renal decompensation in the nature of a reduced concentrated urine, dark in color, of high specific gravity, a goodly amount of albumin, numerous casts, occasionally blood cells, slight oedema, headaches, frequent nausea and vomiting. With present day hospital efficiency most of the cases come in from the maternity clinic with only slightly elevated blood pressure and slight signs of renal inefficiency. In the severe cases the albumin may read 10 or 12 grammes to the litre and boil solid, oedema may be very pronounced and general, and the urine may be partially or completely suppressed, or may be almost pure blood. The cardinal symptoms of eclamptism—the warning signs of an impending convulsion —may appear in the form of severe epigastric pain, intractable supra-orbital neuralgia, psychosis, muscular twitchings, or blindness.

The blindness of this and in the hepatic types of toxaemia differs very markedly from that of the previously described type—the nephritic type. In the true toxaemic type the eye grounds do not present any pathological lesion except oedema of the optic nerve. We may look upon the eye in such cases as a mere projection of the brain and it is involved in the same congested oedematous states. This type of blindness passes off as soon as the toxaemia is over; frequently disappears completely in 24 hours and leaves the vision quite unimpaired.

The renal disease in this type of case is merely an accident of the toxic state. It is an expression of the irritation caused the kidney in its endeavour to eliminate concentrated poisons. The blood pressure is salutary up to a certain point. It is an expression of endeavour to force the circulation in the kidney and promote the elimination. Lowering the blood pressure is dangerous except as a temporary expedient (to prevent damage) to gain time. The whole of our effort must be spent in diluting the toxins so that a weaker concentrate will be presented to the kidney. A kidney will eliminate a given quantity of poison in a given time if presented in diluted form, but will rebel and baulk at the same amount of poison in greater concentration.

The renal type of preeclamptic toxaemia, before the onset of eclampsia, is very amenable to treatment and the prognosis is good.

If neglected these cases grow progressively worse until eclampsia supervenes.

The treatment and other properties which are common to all the types of preeclamptic toxaemia will be reserved until the peculiarities of the various types have been described.

(b) **The Hepatic Type.** This is the second most common type of preeclamptic toxaemia. It is a more dangerous form of manifestation than the renal. It is an expression of irritation amounting to necrosis of the liver cells, due to direct effect of the poisons upon the parenchymatous cells. Whether the focal necrosis of the lobules is due to the direct chemical action of the poison alone, or whether it is a condition arising out of chemical action, and excretory irritation and starvation, it is quite impossible to state.

The type takes on symptoms arising out of defective liver function. The resistance of the body is equal to its weakest system and the weakest system in these cases is the hepatic, or better still the gastro-intestinal system. Naturally the liver is not singled out to sustain the whole attack. Other organs will show more or less the effects of the systemic toxaemia, but the liver bears the frontal attack, and the other structures are overlooked in the overwhelming effect of the attack at the pivotal spot.

The Hepatic differs from the renal type in that there is jaundice and usually more antecedent gastrointestinal disturbance, and negatively in the absence of oedema and marked renal deficiency. The icterus is often somewhat late in appearing. A word of warning will not be out of place. The jaundice in such cases may not be due to the characteristic necrosis of the liver due to toxaemia. In some cases the icterus is out of all proportion to the severity of the toxic symptoms and may be a catarrhal jaundice secondary to gastrointestinal disturbance.

I have seen two such cases in the past year where I was tolerably certain that the vomiting of toxaemia had produced catarrhal cholangitis. These were treated accordingly and recovered, whereas had the jaundice been of true hepatic toxic character, the condition would have gone on ultimately to acute yellow atrophy.

The onset of preeclamptic jaundice betokens a serious condition and demands energetic treatment. It doesn't do to procrastinate unduly in such cases, because the liver necrosis and shrinking may be much more advanced than clinical findings would indicate, and when the liver has suffered beyond a certain degree, recovery becomes impossible even though the primary cause of the toxaemia be removed.

Moreover the effect of an anaesthetic when surgical intervention is necessary is a serious problem and becomes a point of fine discrimination to choose the anaesthetic that will inflict the least amount of injury upon an already badly damaged liver.

When eclampsia develops in the hepatic type the recoveries are fewer than in the renal types. That this is so is not surprising when

one sees at autopsy the tremendous amount of damage that the liver has suffered in such cases.

(c) **The Haemorrhagic Type.** This type is characterized by its strong tendency to develop haemorrhagic states. It matters not an iota whether the haemorrhage is a retroplacental one or whether it is a general purpuric state. The underlying cause is the same in both cases, and the difference is purely relative, or a matter of degree.

There are certain peculiarities about this haemorrhagic type that bring it into close analogy with similar toxic states in infections. Septic haemorrhage may be uterine, but it may also be general and purpuric. The underlying cause is the toxic state and the difference is also only relative. This close resemblance between microbic toxaemia and pregnant toxaemia makes the comprehension of the latter much easier. Just as in microbic haemorrhagic states the haemorrhages are much more likely to come in low grade, long continued infections which, in a previous paper on purpuric infections, I have described as cumulative toxic states, so in the preeclamptic toxaemias the symptoms of toxaemia, such as slight blood pressure and general malaise, may be almost negligible, but suddenly, after this toxic state has continued over a period of weeks, without any symptoms to warn one, the patient develops a retroplacental haemorrhage or a general purpuric state. In many of these cases the toxic condition is diagnosable only in retrospect, so few are the symptoms of toxaemia. It is not always so. Purpuric states sometimes develop as a superadded grave condition in other preeclamptic types and in true eclampsia.

It is well to remember that blood pressure is the most constant sign of preeclamptic toxaemia, and it is well, also, to bear in mind that the average normal pregnant woman's blood pressure is about 65 or 70 over 90 to 100. So that a blood pressure of 90 over 120 means usually twenty degrees of toxicity. If we assumed that the normal blood pressure were 90 over 120 and the pressure registered 100 over 140 we would not hesitate to pronounce the case as toxic in character, and yet a blood pressure of 120, in the vast majority, the case is definitely one of toxicity.

What happens in these cases to cause haemorrhages is quite unknown. It would seem as if of a sudden the normal relation between contained and container were lost. Dr. Chipman has suggested that it is as much the result of changes in the blood vessels as in the blood. It is not only possible but quite plausible. We know that the great majority of retroplacental haemorrhages are toxic in origin and I saw one notable case in which the haemorrhagic state was general and purpuric, and at autopsy every mucous and serous membrane was either bleeding or ecchymotic, studded with petechiae. The treatment will not be as effective as might be until we learn to recognize the mild toxic symptoms and institute proper treatment before the haemorrhagic state sets in.

(d) **The Cerebral Type.** This is by far the most insidious and most fatal type of eclamptic toxaemia. In the majority of cases the prodromal symptoms are quite absent. The prodromal signs of toxaemia are either absent or negligibly slight, and the eclamptic seizure comes on with a rapidity and a severity that baffles every known means of meeting the crisis. These cases are frequently spoken of as a "bolt from the blue" and in truth they are, and they are the more tragic in that they are so unsuspected. I have known quite a few cases who had been under careful examination and pronounced normal just a couple of hours before the onset of convulsions. Such convulsions! They are of the severest type followed by the profoundest coma, and the seizures in some cases never cease. In one of my cases there were constant twitchings of all the muscles of the body after the first severe seizure, and the patient gradually grew weaker from exhaustion without ever showing the slightest sign of rallying. This is the rule. How are we to meet such a condition? If we can't diagnose by close observation the prodromal signs (if there are any) then the situation seems hopeless. In reviewing some of these cases we can find symptoms that perhaps should have been given more consideration, but such is always the case when we analyze our results by careful retrospection. The weak system would seem to be the nervous tissues, and the toxic state must be mild and cumulative or we certainly would have more to warn us. These cases are almost hopeless from the moment of the onset of convulsions and constitute a fairly large percentage of the deaths from eclamptic toxaemia.

Treatment of the Preeclamptic Toxaemias. Upon this there is unanimity of opinion. There are three duties that devolve upon the physician.

Firstly. He should reduce the daily work that has to be done by the lowering to a minimum mental and physical effort and by reducing the diet to an easily assimilable quality and to a quantity just equal to, or even below (for a short period only) corporal needs.

Secondly. Lessen the amount of work that will fall upon the kidneys by the dietary methods and the rest enjoined above, and promote the elimination by the kidneys by diluting the concentrated toxicity. This is best accomplished by the ingestion of quarts of water daily.

Thirdly. Assist elimination by activating the bowels by saline purgatives, and activate the skin by keeping the patient warm and promoting unconscious perspiration.

Cases of preeclamptic toxaemia are a pleasure to treat (a contrast to those of the nephritis type). They usually respond so readily to treatment. The success depends largely on recognizing the symptoms early before great damage is done and when organs are in such a state of freedom from disease that they respond to careful treatment.

The disappearance of symptoms and signs and the slow falling of the blood pressure are the best prognostic signs. We frequently

find marked, unaccountable remissions in the blood pressure in pre-eclamptic toxaemia, a condition almost unknown in nephritic toxic states. The preeclamptic is generally plethoric, full blooded, and the facies frequently presents a generally swollen state but not an oedema. This is again in marked contrast with the pallor of the nephritic type.

In the preeclamptic toxaemias the risk to the foetus is almost negligible. Death of the foetus occurs usually only after repeated convulsions but practically never occurs in the preeclamptic state except in the retroplacental haemorrhage in the haemorrhagic type. In marked contrast to the nephritis toxaemia the placenta is quite unaffected in preeclamptic toxaemia. And the incidence of pre-eclamptic and eclamptic toxaemia is no impediment to other normal pregnancies, nor does it predispose to a repetition of this condition.

The treatment of eclampsia on the other hand is one of contrasts. There are those who advocate the conservative treatment of Strogonoff or of Stander's modification, and there are those who maintain that the uterus must be emptied at once by the easiest and (if possible at the same time) the safest methods for any given case.

Be it stated here that not any one method will save all cases. There are cases such as the cerebral types which will die in spite of any form of treatment, and there are others which will get well owing to or in spite of any treatment. The Strogonoff method gives excellent results in a large percentage of cases, and offers to the man who has not hospital facilities and surgical skill an easy method of treatment that is beyond higher criticism. Stander's modification requires a great deal of sang froid to carry it through to its ultimate success. I think it is safe to state that in large institutions where surgical facilities are at hand, the obstetrician having tried out the Stronogoff method loses faith in himself or in the Stander's method and resorts to surgical intervention.

There is one point of treatment upon which there is unanimity of opinion as to its value, that is bleeding. I have never seen any but beneficial results follow the withdrawal of three or four hundred cubic centimeters of blood. Frequently the convulsions cease immediately upon such a simple procedure. It relieves pressure and oedema of the brain and is always to be advocated as a temporary measure at least until other forms of treatment can be brought into effect. If this is followed by intravenous injections of normal or glucose saline, these have the effect of diluting the poisons and promoting diuresis. If the patient is conscious in the intervals magnesium sulphate should be given slowly, followed by water ad lib. If the patient is comatose, the use of the stomach tube to wash out the stomach with soda bicarbonate solution, followed by the instillation of two ounces of a 50% magnesium sulphate is often recommended. You will readily see that the jump is a broad one from the Strogonoff method to such an active therapeusis.

The surgical methods are varied. First of all let me state that accouchement force has none but antagonists at present. The condition

of the cervix and primiparity are factors which weigh heavily in the scale in favor of Caesarean section. On the other hand a non-resisting, or cervix of multiparity favors the bag or bougie induction.

Vaginal hysterotomy has its advocates. A man usually advocates what he does best, so that experience and skill are necessary in undertaking evacuation by this route.

Treatment such as outlined above is quite as necessary after operation to relieve the toxaemia.

3. Toxaemia of Kidney of low Reserve. This subdivision is one of doubtful boundaries and leads to much confusion. It would tend to much greater clarity and much easier diagnosis if it were completely eliminated, and cases which would ordinarily fall into this group placed under the heading of nephritic toxaemia. It includes cases which have congenitally small or congenitally defective kidneys which have to work to almost full capacity to discharge the duties of the daily round and toil. There is very little reserve force left for emergencies and when pregnancy occurs a major emergency is set in motion. The kidney strives to rise to the demand, but it is only a time before the reserve is used up and metabolic products are retained. This may be complicated by a toxaemia of greater or minor degree just to make matters a little more complex. Upon first thought one is apt to conclude that such congenitally defective kidneys are uncommon. But, when one realizes that few men and fewer women are absolutely physically balanced and that under-development is so frequently found in other organs such as heart, physiognomy, eyes and sex organs, it would not be surprising that these cases are probably much more numerous than any one of us surmise.

The difficulty is in diagnosing them. A diagnosis by direct methods is impossible, but it is arrived at only by a process of exclusion. They do not present the characteristics of nephritic toxaemias because their urinary findings are not the same; their concentration index in the urine is not lost as in nephritis; and visual and other defects are lacking. On careful examination other stigmata of under-development frequently become obvious and offer a clue to the diagnosis.

The treatment consists in lightening the load upon the kidneys by rest, physical and mental, and by a lessened protein diet and a quantity of food just sufficient to supply the body demands, and a careful maintenance of normal bowel function. The endeavour will be to carry the child to viability at least, and under close obsrvation to carry the pregnancy as far as possible beyond the period of viability without subjecting the mother to too much renal damage.

The term "kidney of low reserve" is a very confusing one. Every kidney that is damaged is a kidney of low reserve, and the reserve diminishes in inverse ratio to the damage. That is self evident. It would perhaps make the grouping more in accordance with clinical and pathological findings to leave the above group under a heading of its own and term them "congenital renal deficiencies." All others

including the group described below would fall under the nephritic toxaemias.

The second group which is usually placed in this category comprises those cases whose reserve has been used up by frequently repeated pregnancies.

The history usually reads as follows: Numerous rapidly succeeding pregnancies. During the seventh pregnancy, (let us suppose) the patient develops retention symptoms and blood pressure during the last month. In the eighth pregnancy the retention symptoms come on a month earlier and so on.

Treatment consists in lightening the load as in the previously described type, and pointed suggestions that a longer period between pregnancies would be in the interests of both mother and offspring.

Notes

There is ample accommodation at The New Pines Hotel for over 150, besides 26 cottages suited for parties from 4 to 6 persons in each. Every room in the hotel has a bath and each cottage a bath with running water in the rooms. The situation of the hotel offers a wonderful view of the beautiful scenery around Digby. Swimming facilities are provided by a salt water pool immediately in front of the hotel. Table d'hote meals will be served and the Orchestra will play at Luncheons and Dinners. There will be no additional charge for the Dinner Dance save for gratuities.

The rate per day, three meals and room, will be Seven Dollars ($7.00). Arriving Wednesday morning and leaving Thursday afternoon would be a day and a quarter.

The meeting of the executive will be held in a small dining room and the business and scientific meetings of the Society will be held in the Concert Hall; Registration will be in this hall; in order to register the annual fee must be paid.

A medical golfing enthusiast will arrange a tournament, playing the first nine holes before breakfast and the second nine before dinner.

As the ladies of Digby will desire to extend courtesies to the visiting ladies please advise early in June as to the number coming.

The Secretary had the nerve to ask Dr. Benvie of Stellarton to bring Mrs. Benvie with him and she has promised to bring her violin.

Unseen Hazards in Hospitals, Clinics and other Institutions

GEORGE F. LEWIS,
Deputy Fire Marshal of Ontario

THE first consideration in a well managed hospital is the "Prevention of Fire" and general provision for the safety of life should a fire unfortunately occur.

Insanitary conditions, disorder, accumulation of sweepings, rubbish, litter, old furniture, etc., that breed germs and disease, also breed fire. By removing the cause, both of these dread scourges will be prevented, for it is difficult to start a fire where "CAREFULNESS and CLEANLINESS" prevails.

With sick persons the tendency to become panic-stricken under slight provocation is very great, and infants are easily suffocated by smoke. Wings and sections of hospitals may be "cut off" from other parts of the building by fire resistive partitions and fire doors. Stairs may be enclosed by wired glass partitions with automatically closing transoms where it is desired not to interfere with lighting and ventilating facilities, and other precautionary measures may be easily taken in buildings that are not even modern in construction, and which will at least make them fire retardent instead of quick burning. The idea is to prevent smoke and fire quickly spreading throughout the hospital until the patients can be moved to a safe place.

In hospitals that are not of fire-resistive construction bed-ridden and helpless people should, as far as possible, be kept on the ground floor, and in no case should they be housed above the second floor.

The Nitro-Cellulose X-Ray Film Hazard. Although a number of fires and explosions have occurred in recent years from the improper handling and storage of nitro-cellulose X-Ray films, the hazard was not regarded as serious in the minds of many until the terrible disaster occurred in the Cleveland Clinic, on the morning of May 15, 1929. Who could have imagined that such a place would suddenly become a scene where more than 125 unsuspecting unfortunates—doctors, nurses, patients and those accompanying the sick—would be brought to the rendezvous with death which it was the very purpose of the Institution to prevent—to postpone? Almost countless are the combination of circumstances that may, in unexpected ways, lead to possibilities so shocking as to be difficult to comprehend.

Terrific explosions took a piteous toll, but the toxic gases from burning nitro-cellulose film slew with more deadly and ruthless hand. This is a warning to all who are responsible for the care of sick and incapacitated persons. Danger will continue to lurk in unsuspected places, but a hospital is a place where fire and explosion hazards should not be permitted to exist. Precautionary measures must not be relaxed, rather must they be increased and maintained with eternal vigilance.

Perhaps the most serious part of this indictment is the fact that the hazard is unnecessary. Acetate cellulose or safety films are available for every person using X-Ray machines. They are in every respect as fast and efficient as the dangerous kind. The emulsion is coated on both sides of a thin transparent base made of acetate cellulose, which, according to tests, is not any more dangerous from a flammable standpoint than ordinary paper, and its burning does not produce any toxic effects. On the dangerous kind of X-Ray films the same emulsion is used, but the base is nitro-cellulose, of similar chemical composition as gun cotton, but having about 2 per cent less nitric acid in its make-up, which changes it from a high explosive; but does not disarm it of other dangerous qualities.

I cannot emphasize too strongly the urgent necessity of all hospital authorities as well as those in charge of Clinics, dental offices and professional photographers, *discontinuing the use of the dangerous nitro-cellulose film.* The feeling is becoming pronounced throughout the country that legislation should be enacted prohibiting the use and storage of nitro-cellulose films in hospitals.

The Cleveland Clinic Disaster. Through misconception or lack of information some people got the idea that the building in which the Cleveland Clinic Foundation fire occurred was not of modern construction. Such, however, was not the case. The building used as a Clinic was erected in 1920 of reinforced concrete frame, with brick walls, eight inch tile roof between reinforced concrete joists. The floors were of the same construction as the roof with floor surfacing both of concrete and wood. The structure was 75 feet by 124 feet, and four storeys in height, with basement under about one third of the building. There were two elevators and two stairways each in independent hollow tile shafts. *It was well built but badly designed.* A pipe tunnel 4 feet wide and 6 feet high extended around the three walls of the unexcavated portion of the basement. From this tunnel 19 vertical pipe ducts extended to the roof space as well as several other ducts from the machine room in basement. These pipe ducts provided means for the gases to quickly spread throughout the Hospital so that although the building was of fire resistive construction, the faulty design coupled with the lack of proper ventilation and the absence of protection which would be afforded by an automatic sprinkler system furnishes a lucid explanation for the appalling loss of life.

Since 1928, when a central heating plant was installed, the coal vault, 19 feet by 24 feet by 9 feet high, was used as a film storage room. What had formerly been a coal chute was closed with a cast iron man-hole and a wooden drop shutter. The exit fire door was not working on the day of the catastrophe. There was no vent to outside air from this X-Ray film storage vault and the primary requirement of an automatic sprinkler system for such an occupancy was not provided.

It is estimated that there were upwards of ten thousand pounds of X-Ray films in the storage vault.

Steam pipes were located near the ceiling of the film storage room. Besides two low pressure pipes there was one 4 inch high pressure steam pipe covered with half-inch magnesia insulation. *The high pressure pipe carried* 65 *pounds steam pressure with a temperature of* 311 *degrees Fahrenheit. This pipe was within* 7½ *inches of the nitro cellulose X-Ray film stored on the shelves. Decomposition of nitro cellulose film starts at* 275 *degrees Fahrenheit.*

Electric light and power wiring appears to have been good except for pendant lamps in the film storage room.

Such in brief is the background of the picture of this sad catastrophe.

Heat and Moisture from High Pressure Steam Pipe Started Decomposition. From the most authentic reports and evidence adduced the facts are as follows:—

About 9 o'clock in the morning the engineer was called to repair a leaking steam pipe in the room where the nitro-cellulose X-Ray films were stored.

He responded promptly and ripped off some of the magnesia insulation in order to reach the source of trouble. The pipe was too hot to work on so he went to the central heating plant about 200 feet away for the purpose of turning off the steam. About 11.15 a. m. he returned to finish his job. On entering the vault he saw a small cloud of brownish gas, or, as he thought, smoke from a fire in the corner where he had ripped off the magnesia insulation from the high pressure steam pipe. He immediately procured a soda and acid fire extinguisher and played the liquid on what he thought was a fire. He, however, was quickly driven out of the room by the rapidly increasing fumes, leaving the door open, and subsequently escaped through a basement window. The alarm was sent in to fire headquarters and those in the building notified of the fire. However, few of the 250 persons in the Hospital seemed to realize the danger, and about 100 were stricken by the toxic gases, the remaining 25 dying hours or days after inhaling the poisonous fumes. There were no bed patients in the Clinic.

A few minutes after the engineer discovered the decomposing nitro-cellulose films an explosion occurred in the basement as the result of the mixture of gas and air, or possibly a gigantic puff as

gases burst into flame spontaneously from the increasing heat of decomposition. An automatic gas water heater outside the film room door may have ignited the gases. The fire was not of serious proportions at anytime, due possibly to the fact that the oxygen in the basement was exhausted. The wooden film shelving in the storage room was burned and wooden hand railing on the stairs was badly scorched. The fiercest burning was on the outside of the building where brick work was spalled in the rear of the structure.

A second explosion occurred in the basement and ten minutes later a violent explosion occurred in the hollow space under the roof which blew down the ceiling of the top storey and lifted the roof skylight.

Great heroism was displayed by the firemen who concentrated their efforts on the work of rescuing the trapped victims. Doctors and nurses in many cases sacrificed their lives in efforts to save the patients. Some died inside the building, others died soon after they were taken out. Dr. Swafford died 27 days after the catastrophe and there were then five other patients in the Clinic Hospital under treatment.

There is no evidence to support the suggestion that a pendant 100 Watt electric light was the cause of decomposition in the nitrocellulose X-Ray film storage room. It is quite possible that if the 100 Watt lamp was left resting on the envelopes containing nitrocellulose film that it could have started decomposition. However the engineer was an eye witness of the occurrence and there appears to be no question but that the decomposition of the nitro-cellulose films was caused by the heat and moisture of the exposed leaking high pressure steam pipe.

It appears to me that the time has arrived when all nitro-cellulose film entering the country should bear an identifying imprint such as "dangerous" or "nitrate". If nitro cellulose films were thus marked there would be no excuse for persons claiming that they did not know that the films being used were the dangerous kind.

Hazards from Flammable Anesthetics. In a paper on explosions of anesthetic gases and methods for the control of electrostatic conditions, Dr. Herb, Chief Anesthetist of the Presbyterian Hospital, Chicago, stated:—

"Shortly after the introduction of ethylene-oxygen for anesthesia in the Presbyterian Hospital, March 14, 1923, two minor explosions occurred in the delivery room. The first one took place when the breathing tube and cone were placed on the head of the machine; the other one occurred while the anesthetist was holding the cone preparatory to its application to the patient's face. In the first instance, a spark was produced when the metal on the tube came in contact with the metal on the head of the machine.

"In the second case, the anesthetist thought it probable that he had struck the metal table with the cone, causing a spark. No further trouble was experienced for nearly a year, when two explosions oc-

curred within two hours in different operating rooms. The first of these two explosions occurred when an assistant's gown brushed against the breathing tube in passing, and the other took place when the tube was being changed from one machine to another. The fifth ethylene-oxygen explosion, similar to the fourth, occurred when the breathing tube was being attached to another machine. Becoming exercised over these explosions, we substituted nitrous oxid-oxygen for ethylene-oxygen. Within a few weeks two explosions occurred with this gas. The first of these took place when the patient and gas machine were being wheeled into the operating room during anesthesia. The anesthetist was unable to give any definite information regarding the cause, but thought that the cone had been kept on the face during the trip into the operating room. The second explosion during the administration of nitrous-oxid-oxygen occurred at the completion of an administration, when the breathing tube was being disconnected from the machine.

"The gases were flowing at the time of all the explosions. With the exception of the first two explosions there was ether in the ether chamber of the gas machine; and in one of the nitrous oxid-oxygen explosions, and two of the ethylene-oxygen explosions, it became ignited and damaged the head of the machine . . . . . All of the explosions occurred during cold, dry weather when the humidity in the operating room was low."

These explosions in the operating rooms resulted in carrying out a series of tests and experiments for the purpose of eliminating static. It is a well known fact that static electricity accumulates on the body of a person when walking on rugs, linoleum, etc., and this charge becomes more potent when the individual is wearing woollen garments, in dry heated atmospheres; and particularly when a person living at sea-level goes to higher altitudes where the air is more rarefied.

The anesthetics commonly used in operating rooms which are classed as flammable or explosive when mixed with air or oxygen in proper proportion are ether, ethylene, propylene and ethyl-chloride.

Nitrous oxide alone or with oxygen is not flammable but is a supporter of combustion.

Nitrous oxide mixed with a very small amount of ether may form a highly explosive mixture.

Ether and ethylene are most commonly employed for anesthesia. The danger from ethylene may be judged when it is known that it can be used as a blow torch. It should be stored separately from oxygen and nitrous oxide. If it caught fire it would possibly burn through the metal cylinders containing other gases.

Oxygen is manufactured by a water lubricated process.

Ethylene is manufactured by an oil lubricated process, and is the product of acetylene or alcohol.

Ethylene must not be put in a container that had oxygen in it or vice versa.

While it is common practice to mix oxygen and ethylene it must be remembered that when mixed they oxydize and may explode.

Ethylene should not be used in the presence of a cautery, open flame or any electrical apparatus, tools, or metal capable of producing a spark. It forms with air or oxygen an explosive mixture in a concentration of three and three-tenths volumes of ethylene with ninety-six and seven-tenths volumes of air, according to the Bureau of Standards.

Explosions have occurred with ethylene-oxygen with and without ether due to atmospheric conditions. In one case drawn to our attention a doctor lost his life from an explosion while repairing the valve of an ethylene gas tank, probably caused by a spark through the use of an iron wrench. Other causes of accidents in hospital operating rooms have been due to the use of radio knives, high frequency machines, X-Ray fluoroscopic equipment and handling ferrous tools, or otherwise creating frictional or static sparks. Non-ferrous tools should always be used in adjusting machines or opening the bungs of drums or tanks.

The electric cautery presents a problem difficult to solve, as its use is often imperative. Perhaps the hazard could be overcome by using non-combustible and local anesthetics wherever practical.

It should be recognized that where combustible anesthetics are being used, the gases exhaled by the patient are within the explosive range or beyond it, consequently, while the patient is under the influence of the anesthetic, no open flame or other heat or spark emitting device should be used within the operating room, with the exception, of course, of steam or hot water radiators, or other low temperature devices necessary to keep the patient warm.

If heat is necessary to maintain an easy flow of gas through the anesthetic apparatus hot water bags only should be employed, or appliances of a type approved for use in explosive atmospheres.

Safeguards. Cylinders containing anesthetics—and gases—such as oxygen, nitrogen, carbon dioxide, and compressed air, should be clearly marked with the name painted on the top of the cylinder. *Colour of cylinder must not be depended upon as denoting its contents.* I have seen one cylinder painted red and another cylinder painted aluminum colour containing the same gas. I have also seen a cylinder in a store room where the tag or label had been torn off or fallen off and no person was able to tell me the kind of gas contained in the metal tank.

I would recommend that those in charge of the "Receiving Room" in hospitals should send all metal cylinders or tanks back to the manufacturers if the name of the gas is not stencilled on the upper part of the cylinder in plain gothic type.

The practice of covering the cylinder with cotton cloth hides the identity and is therefore dangerous.

Cylinders containing anesthetizing gas, fluid, or other gas for medical purposes should be stored in dry, well ventilated places, and

never stored in the operating room. If stored adjoining operating room the rooms should be separated by blank fire walls.

Cylinders or cans containing anesthetics or other gases should be kept away from radiators and steam pipes. They should be so stored and handled as to prevent contact with fire or spark from electrical equipment or any other source. Where motors are installed on anesthetometers they should be of the non-sparking or vapour-proof type.

Suitable regulators or gas flow devices should be used in conjunction with any cylinders containing gases used for medical purposes, except in the case of low pressure oxygen containers used for such as pneumonia cases.

Gas regulators or other devices used with a combustible anesthetic must not be used on an oxygen cylinder or vice versa. Care should be exercised to prevent cylinders, regulators, tubes or pipes containing oxygen from coming in contact with oil or grease on apparatus or machinery.

No equipment should be used which would permit the intermixing of gases in various cylinders by an error of manipulation. If a cylinder of ethylene should be accidentally connected with one containing nitrous oxide, for example, an explosion would be almost certain.

Despite the name of the contents being painted on the cylinder the metal should be stamped "standard" as required under transportation laws. Some manufacturers use light weight metal and consequently do not make a safe container.

The construction of an oxygen chamber must be carried out with the greatest care so as to prevent explosion by oxidation. Oxygen ignites spontaneously with explosive force when in contact with oils or grease. All plumbing fixtures should be kept outside the chamber. Oxygen loses its affinity to combine with glycerine, greases or oils when under low pressure.

Industry in Step with Science. Fortunately industry has kept pace with science in this very important matter, so that safe and reliable equipment may be obtained.

After exhaustive tests the Underwriters Laboratories have approved a device for "nitrous oxid-oxygen-ether, ethylene oxygen anesthesia". It is a portable apparatus designed for producing at low pressure the gases mentioned or mixtures of them in pre-determined proportions, and is used in surgery and dentistry in the administering of anesthetics.

I want to make it clear that equipment and apparatus is available for installation and use in operating rooms, that is safe, and at the same time efficient, and also to make it clear that it is an absolute necessity if we are going to prevent dangerous conditions being created with loss of life and injury, not only to patients but to surgeon and nurses, that all equipment as well as the patient and attendants should

be protected so as to carry off or dissipate all static electricity that might be generated in operating rooms.

Static Electricity. The most subtle form of ignition of flammable anesthetic gases or other vapours is the static spark.

To guard against this hazard insulating materials should be avoided, and machines, tables, patients, and operators should be electrically interconnected and properly grounded. The floor should be well grounded and the conductivity such that all apparatus and persons in the operating room would at all times be in grounded contact so that static electricity could not accumulate.

To further reduce the danger of static electricity operating rooms should be provided with a system of humidification—the humidity not to be less than 60 per cent. The proper degree of humidity should be determined by practical tests under working conditions.

Grounding the Floor and Equipment. To effectively ground the floor of an operating room copper strips may be laid on edge four or five inches apart each way between the terrazzo or other suitable flooring. The copper strips must be in good electrical and mechanical connection at the intersections and the entire network grounded to a water pipe.

Copper chains with small links hung from the operating table and the gas machine and allowed to drag on the floor several inches will insure good grounding of the machines through contact with the copper strips. The doctors and nurses will all be well grounded by the use of this system, providing the copper strips are not more than four or five inches apart each way.

The patient may also be grounded by being laid on a copper plate and this plate connected to the operating table which has its earth connection through the dragging chains.

In old structures where it is not practical to lay a floor with a network of copper strips to carry off static charges, a sheet of copper large enough to cover the floor under the operating table with a good margin all round so that the surgeons and nurses can stand on it, may be used; or, the entire floor may be covered with sheet copper welded together and thus made water tight. Interconnections of apparatus should be made as already described and the metal flooring or plate grounded by means of copper chain or cable clamped to a water pipe.

Metal door knobs and plates at entrance and exit of operating rooms should be grounded, or, replaced with glass or porcelain.

When cylinders or other containers of combustible anesthetics are mounted on a portable truck, precautions should be taken to see that the complete outfit is interconnected and grounded.

If a combustible anesthetizing gas is conducted into a room through a piping system, such piping system should be thoroughly grounded.

Electric charges which are liable to accumulate on the rubber breathing tube should be conducted away to ground through a spiral

wire placed around the tube connecting with ferrules on the ends, and also furnished with an internal wire or metal lining.

Our hospitals are noted for being managed on up-to-date, safe and progressive lines. Without particularizing we have in Canada hospitals that are conducted on sound ethical, and good business principles, whose equipment is standard and where every precaution is taken for the safety and welfare of patients and staff, including the elimination of nitro-cellulose X-Ray films, and providing proper grounding systems for persons and apparatus in the operating rooms.

The Presbyterian Hospital, Chicago, has laid cloisonne terrazzo flooring in their operating rooms in small squares separated by metal strips placed five inches from centre each way, and are slotted together at the intersections. This grille of metal strips is electrically connected together, then grounded to the water pipe. Each piece of movable equipment, such as tables, stands and anesthetizing machines, is equipped on the under side with small linked metal chains which are long enough to drag on the floor for several inches. Regardless of the position of the equipment on the floor, at least one of these chains will be in contact with a metal strip, thus all are grounded and a difference in potential is impossible. The metal between the small squares of terrazzo also grounds the operators and assistants as they move about in the regular routine of work, which eliminates the possibility of an assistant going to another room or to ungrounded equipment and bringing back a charge of different potential. In many other ways they have taken precautions to avoid any possibility of fire or explosion occurring in their operating rooms.

Ventilation. All rooms in which flammable anesthetics are used should be adequately ventilated in order to prevent the lower limit of the explosive range of the anesthetic "gas—air mixture" being approached. Ventilation by natural means is preferable except when a mechanical system is made necessary in connection with a humidifying system.

If electric fans are used, the motors, if such are installed in the operating rooms, must be of the non-sparking or vapour proof type, and fan blades and bearings constructed of non-sparking material. The installation of a ventilating system should be such as not to endanger the patient.

Electricity for Light and Power. In all places where combustible anesthetics, volatile oils or other flammable vapours are used, handled or stored, motors should be of the non-sparking vapour-proof type.

Switches controlling such apparatus and lighting circuits should not be permitted within the operating room unless of a type approved for use in locations where flammable vapours are present.

Electric lights for illuminating the operating room should be enclosed by vapour proof globes as provided in the Canadian Elec-

trical Code. Where necessary the light should be protected by mechanical guards so as to minimize the danger of breakage and the consequent possibility of igniting the vapours.

Telephones and telephone ringing apparatus should not be located within the operating rooms, as such apparatus is liable to produce igniting sparks.

Smoking Prohibited. In clinics, operating rooms and places where containers of compressed gas, liquid anesthetics or volatile oils are stored or handled, smoking, open flame or live cautery should be prohibited.

The instructions issued by the manufacturers of anesthetizing apparatus should be closely followed.

To ensure its safe operation and efficiency apparatus and equipment should be thoroughly inspected and tested at frequent intervals.

Emergency Lighting. Emergency lighting demands may be met by an adequate supply of self-contained electric hand flash lights.

RULES FOR PREVENTION OF FIRE

Good Housekeeping. Cleanliness, order and carefulness are primary requisites in the precautionary measures which should be adopted to prevent fire. Accumulations of rubbish, boxes, old furniture, papers and general disorder are the most potent breeders of fire. Not only is an unnecessary hazard maintained through such conditions, but valuable room is taken up which might be utilized to good advantage, and at the same time allow greater breathing space to make the premises more healthy, inviting and attractive.

Reduce Burnable Area. Reduce burnable area by cutting off wings with fire resistive partitions and self-closing fire doors.

Fire-stop Vertical Openings. Prevent spread of fire and smoke by enclosing stairways, elevator shafts, and other vertical openings with fire-resistive partitions using wired glass and metal sash where daylight is desired.

No Smoking. Smoking should be strictly prohibited and none but safety matches used in the building.

Danger from Wooden Shingles and other Flammable Roof Covering. The wooden shingle, commonly known as the "Conflagration breeder," is one of the principal sources of fire in Hospitals. The building should be protected from "exposure" by a Fire Resistive Roof Covering.

Fire Resistive Partitions. Metal lath and plaster (not wood lath), or other Fire Resistive material should be used on all partitions so as to check the spread of fire.

Danger from Chutes. Soiled clothes and sweepings chutes are a menace in a hospital building. If constructed of wood they provide a quick means of spreading fire. If chutes must be main-

tained build them of fire resistive material, and instal sprinkler heads at top.

Store Flammable Material in Outhouse. Paints, volatile oils, kindling and anything that will make a quick fire should be stored in a building away from the main structure, and never in the Hospital basement.

Danger from Nitro-Cellulose Films. If nitro-cellulose films are used the Regulations pertaining thereto should be closely observed.

HAZARDS THAT SHOULD BE CORRECTED, OR OBVIATED

Menace in the Kitchen. Possible ignition of hot grease.

Improper installation of coal burning or electric range by not having flooring and woodwork adequately protected.

Lighting gas range without first opening oven door.

The use of rubber tubing on gas stove instead of permanent metal piping.

Menace in the Furnace Room and Heating Equipment. Improper installation of furnace and pipes.

Woodwork not properly protected.

Accumulation of rubbish in furnace room.

Wooden cupboards containing oils and paints in furnace room.

Spontaneous ignition of soft coal.

Improper installation of Oil Burning Equipment in furnace. Unsafe type of burner used.

Ashes should be put in metal containers.

Chimneys and flues should be cleaned out at least once a year.

Chimney flues should be lined with vitrified clay flue lining.

Hot air registers should be cleaned out periodically.

Menace in the Operating Room.

Flammable anesthetics—

Ether, Ethylene, Propylene, Ethyl-chloride,

when mixed with the proper proportions of air or oxygen.

Nitrous oxide alone or with oxygen is not flammable but is a supporter of combustion. Nitrous oxide mixed with a very small amount of ether forms a highly explosive mixture. Oxygen ignites with explosive force when in contact with oils or grease.

Numerous accidents have been caused by the use of electric cauteries, radio knives, high frequency machines, and X-Ray fluoroscopic equipment. Electric cautery hazard may be overcome by using non-combustible and local anesthetics wherever practical.

Keep cylinders or cans containing anesthetics or other gases away from radiators and steam pipes. They should be so stored and handled as to prevent contact with flame or spark.

No equipment should be used which would permit the intermixing of gases in various cylinders by an error of manipulation. All cylinders

containing gases should have the name of the contents plainly stencilled on the top of the container.

Electric-motors should be of the non-sparking or vapour-proof type. No electric switches or other sparking device should be permitted in the operating room. Electric lights should be enclosed by vapour-proof globes as provided in the Canadian Electrical Code.

Good ventilation is of paramount importance. Humidify the atmosphere to the extent of about 60 per cent so as to reduce possibility of static electricity bunching up in apparatus or persons.

Ground all apparatus and persons in operating room so as to prevent static sparks.

Replace metal plates and door knobs with glass or other non-sparking material.

All tools used in adjusting or repairing apparatus should be of non-ferrous material so as to prevent a spark by friction or the passage of static.

Menace in the Dispensing Room. Insufficient precautions taken in handling dangerous chemicals, volatile oils, etc. Open flames. Spontaneous ignition.

Menace of a General Character. Storage and handling of the dangerous nitro-cellulose X-Ray films.

Faulty construction of building.

Faulty design of building.

Wooden stairs, running direct from cellar to attic.

Open attic.

Insufficient means of exit and lack of widely separated stairways.

Defective electric wiring.

Overloading electric light and power circuits.

Bridging electric light fuses.

Cleaning floors or garments with gasoline.

Oily mops.

Dust laying mixture, containing linseed oil or other dangerous ingredients.

Oil stoves and lamps.

Watchmen. Efficient watchmen service is very important and should be maintained at all times. The record of service should be shown on a clock dial or such mechanical device as will not permit evasion of duty. The watchman should be familiar with and capable of handling the Fire Fighting equipment, and should promptly report the existence of any fire hazards to the Superintendent.

Fireproof Clothing, Curtains, etc. Clothing, curtains and decorations may be made non-flammable by immersing them in a ten per cent solution of Commercial Ammonium phosphate.

Whitewash as a Fire Retardent. The application of whitewash on the walls and partitions of the basement will make conditions more sanitary and will be found effective as a Fire Retardent.

The Nova Scotia Medical Bulletin

Official Organ of The Medical Society of Nova Scotia.

Confined to, and Covering every Practising Physician in Nova Scotia. Published on the 5th of each month. Advertising Forms close on the 20th. of the preceding month. Subscription Price:—$3.00 per year.

VOL. IX MAY 1930 No. 5

The Medical Society of Nova Scotia

PROPOSED PROGRAMME OF THE 77th ANNUAL MEETING.

July 1st, 2nd and 3rd, 1930, at the New Pines Hotel, Digby, N. S.

Tuesday July 1st, 1930

10.30 a. m. Business Meeting of Health Officers' Association.
1.00 p. m. Luncheon.
2.30 p. m. 2nd Session of Health Officers' Association.
4.00 p. m. Meeting of the Executive.
7.30 p. m. Dinner and continued Meeting of Executive.
7.30 p. m. Health Officers' Association.

Wednesday, July 2nd, 1930

9.30 a. m. Registration.
10.00 a. m. Meeting called to Order:
(a) Minutes to be approved as published.
(b) Consent to be asked for the presentation of Report of the Executive to be laid on the table till the afternoon session, Adoption of 1st clause.

(c) Consent to be asked for presenting Treasurer's Report same to be laid on the table.
(d) Naming of three members to act with the Auditors as a Finance Committee.
(e) Naming of Nominating Committee.
Routine Business as per constitution.

11.30 a. m. Address in Surgery and Discussion—"The Surgery of the Wrist,"—Dr. T. W. Harmer, Boston, Professor of Anatomy, Harvard University, Clinical Surgeon Massachusetts General Hospital.
12.30 p. m. Adjournment.
2.30 p. m. Routine Business.
3.00 p. m. Paper "Cancer of the Rectum"—Dr. R. M. Benvie, Stellarton, N. S.
3.30 p. m. Paper "The Cancer Problem"—Dr. N. H. Gosse, Halifax, N. S.
4.00 p. m. "Orthopedic Symposium"—Doctors Acker, Morrison and Murphy of Halifax, N. S.
4.45 p. m. Adjournment.
Golf.
4.45 p. m. "The Canadian Pensioner"—Dr. Ross Millar, Ottawa.
5.15 p.m. Adjournment.
8.00 p. m. Informal Dinner Dance.
Address of Welcome—Mayor T. C. G. Lynch, Digby, N. S.
Presidential Address—Dr. E. O. Hallett.
Address—Dr. A. T. Bazin, of Montreal, Subject—"The Canadian Medical Association."

Thursday, July 2nd, 1930

9.30 p. m. Routine Business, Reports of Committees.
10.30 a. m. Address in Obstetrics—Dr. J. R. Goodall, Montreal. (Title to be announced).
11.30 a. m. "Report Tuberculosis Commission"—Dr. K. A. MacKenzie, of Halifax, N. S.
Address— 'The Tuberculosis Situation"—Dr. P. S. Campbell, Port Hood, N. S.
12.30 p. m. Adjournment.
2.20 p. m. Paper, "Malarial Treatment of G. P. I.", Dr. Gerald R. Burns, Halifax, N. S.
3.00 p. m. Address—"Hospital Medical Staffs" Dr. G. H. Agnew, Associate Secretary, C. M. A., Toronto.
3.45 p. m. Paper—Dr. W. R. Dickie, Barton, N. S. "A Resumé of Cardiology."
8.00 p. m. Meeting of new Executive.

The British Medical Association

THE CANADIAN MEDICAL ASSOCIATION ANNUAL MEETINGS

Winnipeg, August 26-29, 1930

THE BULLETIN continues to give prominence to what will be the largest medical conference ever held in Canada. This is because it is *our* meeting just as much as of any other part of the Dominion, and it is predicted that an unusually large party from Nova Scotia will be in attendance. This issue of the BULLETIN will complete a list of prominent members of the British Association who hold official positions in this annual meeting.

LEADERS IN BRITISH MEDICINE

N. Bishop Harman.

The President of the Section of Ophthalmology is known not only for his high professional standing but also for being Treasurer of the British Medical Association. Born in 1869 he was educated at the City of London School and St. John's College, Cambridge; where he was Scholar and Research Student. He married Katherine, daughter of Arthur Chamberlain, J.P., Moor Green Hall, Birmingham, and has three sons and two daughters. He is Lecturer in Ophthalmology and late Dean of the West London Post-Graduate College; Senior Ophthalmic Surgeon, West London Hospital; Ophthalmic Surgeon to the Belgrave Hospital for Children; Ophthalmic Consultant London County Council Education Department and the National Institute for the Blind; Member of the Government Committee of Causes and Prevention of Blindness, 1920-22; Late Chairman of Hospitals Committee; C. N. O., South African War.

His publications are: Congenital Cataract; Preventable Blindness; Analysis of 4288 Cases of Blindness; The Eyes of Our Children; Aids to Ophthalmology.

Professor Stevenson Lyle Cummins.

Professor Cummins who is coming to Winnipeg as President of the Section on Tuberculosis had a distinguished military career before becoming David Davies Professor of Tuberculosis, University College, South Wales, Cardiff.

Born 1873 he entered the Army 1897; became Captain 1900; Major 1909; Lt. Col. 1915; Col. 1918; served Nile Expedition, 1898

(medal with clasp despatches); Sudan 1900-1902; Sudan 1904 (clasp); Osmanieh 4th class 1907; European War 1914-18 (C.B., C.M.C. despatches six times Lt.-Col.); Legion of Honour (officer) Couronne de Belgique (officer); Croix de Guerre (Belgian) 1918; retired from Army 1921.

Since 1921 he has been Director of Research to the King Edward VII Walsh National Memorial Association.

Wilfred Trotter, M.D., M.S.F.R.C.S., L.R.C.P., (Hon.) LL.D., Edinburgh.

Honorary Surgeon to the King since 1928; Surgeon to University College Hospital; Holme Lecturer on Clinical Surgery, University College Hospital. Medical School Educ,—University College Gold Medallist and University Scholar in Surgery, University of London 1899; Surgical Registrar, University College Hospital 1901-4; Demonstrator of Anatomy, University College 1904-6, Assistant Surgeon East London Hospital for Children 1906, Publications and various papers on surgical subjects: Address—119 Harley Street, W. I.

LOCAL MEDICAL SOCIETIES AND LIBRARIES.

Any town with 10 or more practising physicians could have a room at the local hospital for meetings and fitted for library purposes. It was Sir William Osler who illustrated the value of the get-to-gether and the Library for the individual doctor. Addressing the profession at Nottingham, England, when opening their new Club and Library, he said:—

"How common the experience to enter a cold, cheerless room in which the fire in the grate has died down, not from lack of coal, not because the coal was not alight, but the bits, large and small, falling away from each other, have gradually become dark and cold. Break them with a poker, get them together and what a change in a few minutes. There is light and heat and good cheer. What happens in the grate illustrates very often the condition of the profession in a town or county. Singly or in cliques the men have fallen apart, and as in the dead or dying embers there is neither light nor warmth, or the coals may be alive, and bright, but covered with the ashes of discord, jealousy and faction. Like the poker bringing the elements together, the medical society is the most important single factor in the promotion of that unity and good fellowship which adds so much to the dignity of the profession."

Let the hospitals in Nova Scotia give this matter consideration, such a room for the Doctors' Den and Reading Room would be a good investment in which all parties would be benefitted.

Quack or Patent Medicine Advertisements

IN an effort to check up on fraudulent medical advertising the writer was told by more than one of his medical confreres and by some newspapers to mind his own business. By one he was told that the newspapers were full of such stuff and it would be ridiculous to try to curtail it. Strange to say one daily newspaper wrote and said "Thank you."

But the newspaper medical quack advertising to-day is not one-third as much as it was 30 years ago. The demand has been rather for so-called Health Articles. Let it be said, moreover, that the majority of these articles are in accord with the medical knowledge of to-day, few of them being actually dangerous if followed by the reader.

There is a chance of giving advertising to concerns who break the law by claiming certain preparations to be curative for certain chronic diseases. So-called Consumption and Cancer cures cannot be legally advertised as such. Nearly all quack advertisers now steer clear technically of this legal point and cures of all cases are seldom claimed.

In order to estimate the amount and nature of the present day advertising of preparations supposed to promote health, I cut out all advertisements of this nature from the evening edition of the paper claiming the largest circulation in Nova Scotia. Here they are:— Fleischmann's Yeast—¼ page; Fruitatives—4 inches (2 column); Bromo-Quinine—4 in. (1 column); Father John's Medicine—4 in (2 column); Gin Pills—4 inches (2 column) inserted by National Drug & Chemical Co. of Canada. Catarrhozone—4 in. (1 column); St. Jacob's Oil—3 in. (1 column); Siegel's Syrup—2 in. (1 column); Nature's Remedy (all vegetable laxative 1½ in.).

In reading these advertisements one is struck with the modesty of the claims made, a favorite form being a letter from someone who claims to have been cured or benefited. Then, further, rightly used all of these preparations may be beneficial. For a 16 or 20 page daily newspaper this is most creditable. It is only fair to conclude that there is not the amount of quack medicines or cures advertised to-day as in former years. In this instance besides the ¼ page Yeast advertisement, which perhaps should not have been mentioned as its value is generally recognized by medical men, but 37 inches of column space in this paper was devoted to preparations which would hardly be prescribed by a doctor.

In contrast to this we have had in Nova Scotia, not long since, page and half page advertisements of a proven fraud of the most glaring nature, referring in particular to the Coffee cure for deafness. It is surely not too much to ask that such extensive advertising should be thoroughly investigated before being accepted.

S. L. W.

Tropical Medicine and Hygiene

THE FATHER OF MODERN TROPICAL MEDICINE

THE Royal Society of Tropical Medicine and Hygiene proposes to honor Sir Patrick Manson, the greatest pioneer in tropical medicine in recent years and the Society's first President, by the erection of a building suitable for its purposes. It is to be named the *Patrick Manson House*. Its immediate object is to afford such facilities as will assist in the continued development of Manson's work.

He was the first to demonstrate in 1877 that the carrier from victim to victim of Elephantiasis was the mosquito. Before he died other workers proved insects responsible for malaria, sleeping sickness, yellow fever, plague and typhus. All these workers built upon his labors; all acknowledged his inspiration.

Sir Parick died in 1922 and in 1929 an Empire publicity was sponsored by the London *Times* to raise £20,000 for this purpose.

In this connection Sir Austen Chamberlain wrote as follows:—

"I read with great interest the proposal in the letter to *The Times* signed by yourself and others to perpetuate the memory of Sir Patrick Manson by establishing a home for the Royal Society of Tropical Medicine which should bear his name, and, for the sake of my father's association with Manson's work and high regard for him, I should like to be associated with your project and enclose a small contribution.

My father's attention was directed to the subject very soon after his appointment to the Colonial Office, for he was shocked and grieved at the rapid succession of appointments which he had to make to tropical posts in consequence of the prevalence of deadly disease. It was, if I remember rightly, at that moment that the appointment of Medical Officer to the Secretary of State fell vacant, and my father, seeking for the highest authority turned to Sir Patrick Manson.

The researches and discoveries of Manson and his school have revolutionized the conditions of life in tropical and semi-tropical areas, and your project for a commemoration of his memory by a scheme which helps to continue his work should make an appeal not only to the great corporations and merchants who do business with our tropical Colonies and Dependencies, but to all who are interested in those who bear the white man's burden."

The appeal issued by the Royal Society adds,—

"Donations will be gratefully acknowledged if sent to the President at the Royal Society of Tropical Medicine and Hygiene, 11, Chandos Street, Cavandish Square, London, W. I."

The BULLETIN is indebted to Dr. George F. White of Bridgetown for the circulars giving the above information, Dr. White writes:—"Dear Dr. Walker:—

I have received the attached with my English mail and wonder if it would be worthy of a reference in *our Bulletin*. There may be some amongst the profession in Nova Scotia who would feel disposed to participate in honouring the memory of one whose name will no doubt go down to posterity with other great ones like Lister, Jenner and Pasteur as pioneers in the field of Medical Science."

FATAL CREDULITY

UNDER the above heading Dr. A. R. Chisholm, Epidemiologist, Provincial Board of Health, Victoria, B. C., writes as follows in the February issue of the *Bulletin* of the Vancouver Medical Society:

"Some time ago I investigated an outbreak of diphtheria in a small town in the interior. I found a family of ten members who had been concealing diphtheria for three weeks previous to investigation until one of the children died. Just previous to this death, six cases of diphtheria broke out in the village. These latter cases were all subjected to efficient control. On questioning the father who had been concealing the condition, I learned that he had been solely guided by a clipping from the *Vancouver Sun*, captioned "Modern Methods Against Diphtheria, by Dr. Frank McCoy." He believed in this so implicitly that he cut the article out and carried it about in his purse so that it would be on hand for reference. On questioning him regarding this article, the parent stated that he accepted the advice in good faith, and having read it in a widely circulated paper, and seeing the title "Doctor" prefixing that of the name of the author, he naturally assumed that he could rely on the advice given.

In conclusion, it will be seen that the father concealed the condition of diphtheria in his family, and, acting on the advice of the article, he treated four members of his family for diphtheria until the virulence became so marked that the fourth case was fatal."

The Chiropractor on Tuberculosis and Vaccination:—"Another cause of tuberculosis, over-looked by reports, defended by many physicians, but responsible for more cases of tuberculosis than all things else combined, is that scarlet sin of modern times, that worse than Babylonian harlotry, that carbuncle on the back of modern civilization, that excrescence of pollution, that putrid cancer of scientific medical expurgation, whose very name in future generations will bring reproach to the medical fraternity, that poisonous whelp of death, that foulest, filthiest, most death-dealing of all operations, namely, vaccination."—*A. M. A. Journal.*

Correspondence

The Question and Answer Fad or Fraud.

THE BULLETIN has been blamed by some people for continually **harping** on the Chiropractor and other irregular medical(?) practitioners. We are glad to know that some, however, are even willing to add a little more material that makes these claimants of superior knowledge appear as ridiculous as they really are;—to make them appear more ridiculous than they really are would be impossible.

So it is with pleasure that we publish a short note which accompanied a newspaper clipping with a heading,—"Questions and Answers". And here we are reminded of another clipping a man carried that lost him one child and the community an epidemic of diptheria; under the title of fatal credulity it is published elsewhere in this issue.

Dr. Farish, of Yarmouth, writes as follows:—

April 9, 1930,

"I do not know whether you happened to see the latest of Frank McCoy. If not, read it. This I would say would brand him as a quack of the 1st water, if nothing else did. His first answer goes to the osteopath or chiropractor, and I would judge that the second also would end up her days with Diabetes.

Yours truly,
(Signed) G. W. T. FARISH."

These two extracts, the usual clap trap of these articles, are:—

Short Leg.

Question:—R. M. D. asks: "Is there any way I can make one leg grow even with the other? I am 19 years old, and this one leg is 3 or 4 inches longer than the other."

Answer:—"You should go to an osteopath or chiropractor who can tell you after an examination what is causing the leg to be too short. Such a condition is frequently caused from what is called a sacroiliac slip, which means a faulty position of certain bones in the pelvis. In other cases, the shortened leg is due to a disease of some of the bones of the leg. An examination would disclose the true condition, and certain manipulative treatments may be given or orthopedic appliances worn, to correct the trouble.

Pruritus Vulvae.

Question:—Mrs. H. R. writes: "For the past year and a half I have suffered with pruritus vulvae, and have spent much money seeking relief. My doctor says it is caused from a Streptococcus infection, and has treated me over long periods with mercurochrome, but it

seems to be getting worse all the time. I have tried fasting, also every patent medicine I have heard of, but the relief is only temporary. Is there any treatment that would help me, for the continual and extreme itching has brought about a condition of nervous exhaustion that is telling on my general health."

Answer:—"The best treatment I know of is the use of ultra violet light. Consult some doctor who uses one of the strong ultra-violet light machines. A treatment or two will usually bring about a quick relief, and the final cure can be effected if the treatments are persisted in, and if they are supplemented by the proper dietary, which will keep your blood in the good condition necessary to effect a permanent cure."

It is all so silly we wonder intelligent people can stand it enough to publish and read it. Were it not for the tragedy that is liable to occur to the deluded faddist it might be ignored.

It's Worth Printing. A Scottish farmer being elected to the school board visited the village school and tested the intelligence of the class by the question:

"Now, boys, can any of you tell me what naething is?"

After a moment's silence a small boy in a back seat rose.

"It's what ye gi'd me the other day for holding yer horse."

The Greatest Life Insurance Text Ever Written.

"The race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favour to men of skill; but time and chance happens to them all. Man also knoweth not his time; as the fishes that are taken in evil net, and as the birds that are caught in a snare, so are the sons of men snared in an evil time, when it falleth suddenly upon them."—*Ecclesiastes, IX*: 11, 12.

An Idaho man was fishing in Lake Crescent recently. He caught a big northern pike; the biggest he had ever landed in his long and busy life. He was elated. He was crazy with joy, and he telegraphed his wife: "I've got one; weighs seven pounds and it is a beauty."

The following was the answer he got: "So have I; weighs ten pounds. Not a beauty—looks like you. Come home."

First Boy (boasting)—"My pa's got a wooden leg."

Second Boy—"Huh! Dat ain't nuthin'. My sister's got a cedar chest!"

Ex-Officers C. A. M. C.

A RE-UNION AT WINNIPEG.

August 26-29, 1930.

THE Honourable J. H. King, Minister of the Department of Pensions and National Health, is desirous of co-operating with the local Committee of the British Medical Association in Winnipeg in order to have, as far as possible, a representation of the ex-Medical Officers at the forthcoming meeting of the Association which is to be held in Winnipeg August 26-29, 1930.

A complete list of all the Canadian physicians who served in Canada or with the Canadian Expeditionary Force, as well as those seconded to the Royal Arms Medical Corps, has been prepared and a similar letter to this is being sent to each ex-officer. The latest address has been obtained from the Canadian Medical Directory, and possibly some errors or deficiencies in these addresses have occurred, so that if you know of any officer who has been unintentionally omitted, please send his name and address to Dr. J. D. Adamson, Secretary, General Committee for B. M. A., Medical Arts Building, Winnipeg.

This Department will have completed a new hospital of 250 beds at Deer Lodge, which is on the street car line within easy distance of the Association meetings and where, if accommodation in the city is limited, it may be possible for ex-officers, and particularly ex-officers who are pensioners to obtain sleeping accommodation at a moderate cost. Also, if sufficient returns are received from this letter, arrangements will be made for marquees, which will be pitched on the grounds of the hospital on the banks of the Assiniboine River, and it is expected that Officers' batmen would be supplied from the Canadian Legion in Winnipeg if so desired. It would be impossible to arrange for any accommodation for officers' wives, at the Departmental Hospital, and such matters should be arranged through the General Committee in the city.

As accommodation will be limited, prospective visitors are requested to indicate by direct communication with Dr. Adamson at Winnipeg what their requirements would be. You are urged to write a personal letter to your medical friends and associates of the Great War throughout the Empire, inviting them to attend the meetings, and setting forth the attractions which Canada will offer at that time.

On behalf of Dr. Harvey Smith, President-Elect, and the General Committee, I am asked to state that a very hearty welcome will be extended to all who are able to attend.

ROSS MILLAR, M.D.,
Director Medical Services,
Dept. of Pensions and National Health.

Reviews

THE *Bulletin* of the New York Academy of Medicine for March, 1930 is on our Editorial desk. There are two leading aricles in this issue:—

(1). *The Psychroneuroses Affecting the Gastro-Intestinal Tract.*

(2). Postoperative Emotional Disorders. Their Prevention and Management.

The first paper was presented to the Academy, as one of the Lectures in the Annual Graduate Fortnight—conducted each October, by Dr. Burrill B. Crohn, Associate Physician, Mount Sinai Hospital.

Long before the neurologist and the psycho-pathologist has been called to see such a patient the general practitioner and the internist have been doing spade work or so they thought. But, he says, "We must categorically deny that there exist neuroses of the stomach or enteric canal; we must affirm that such disorders merely choose the upper or lower alimentary tract for the symptomatic expression of a mental disturbance which differs only in kind but not in identity from psychroneuroses in general."

Despite this positive statement it does not appear proven that the general practitioner should at once call in the Neurologist or the psycho-analyst. It is, however, as he says,—"There is urgent need that the body of the profession be capable of recognizing and roughly grouping the cases, and, to a large and practical degree, be psychologically educated to handle at least the simpler problems dependent thereto."

Ethiology. Heredity is a powerful factor; dis-harmony between the individual and his environment; the strain from the greater complexity of living due to the high civilization of to-day; the weakening of the hold of religion; domestic and social disturbance in families; inability of retired business men to play; fatigue, mental and physical, when aggravated by insomnia; alcoholism is hardly a factor but tobacco is a real danger.

The symptomatology, differential diagnosis, prognosis and treatment are fully dealt with and make interesting reading. Yet, in the end, he makes a plea for, not more neurologists, but more physicians properly trained and to have certain natural gifts. They should be or have, he says,—

"Success in the handling of emotional and neurotic individuals is based upon certain characteristics, some of them natural gifts and some of them acquired by effort and experience.

1. A natural psychoanalytical insight.
2. A sympathetic bearing arousing confidence.
3. A broad experience with world affairs.
4. Dignity and the manner of authority.

5. A broad general education founded upon a breadth of view and a catholicity of interest in men and affairs.

A suggestion arising from such a one is likely to carry weight and help bring order out of a mass of disorder and conflicts. Suggestion in the form of a reassurance, a sentence of advice, or an authoritative request to rearrange methods of living will do what less obvious means cannot accomplish. Change of scene, hydrotherapy, sunlight and drugs all have their usefulness, but the real therapeutic agent is suggestion "and advice."

The failure of the profession properly to educate itself in this problem and successfully to cope with it has led to the rise of cults and quackery throughout our civilized world. Old as time and medical history, the holy medicine man and the quack imposter of the cultists of to-day, have taken advantage of the situation and have exploited themselves and their faiths as magical, spiritual or religious healers. Whether by one method or another they practice by means of suggestion and suggestion only; whether by teeth of serpents, magic fire, Perkins tractors or Mary Baker Eddy's Monitor, their methods are all based upon suggestion. Were that all, there would be less criticism—but it is their inability to make a scientific differential diagnosis of diseased conditions that makes a danger to the body social. They are successful only in proportion as they are led by men or woman of unusual ability in understanding human nature and human equations.

The reflection is upon the profession of medicine. The trained physician should be the healer, not the inexperienced but loquacious seller of patented ideas. We have need not so much for more neurologists, though that would be a benefaction, but for an improved effort on the part of the profession in this direction. The doctor of to-morrow must have a broader and more general fundamental education, he should be widely traveled; the choice of the best minds and material should go into the making of a physician. He should develop his interest in the Arts, in Literature and in the Drama, both in life and on the stage.

Literature particularly offers the widest acquaintance with mankind; for, with the rapid development of psychological fiction and drama, a better opportunity than ever is offered for the acquisition of knowledge concerning human behaviours, social conduct and the problems of the individual and of life. No man can live all of life in its various ramifications in the span of seventy years; Havelock Ellis did not live the sex life he wrote about. Read Flaubert, Balzac's Comedie Humaine, Stendahl, Ibsen, Thomas Hardy, Wassermann, Knut Hansen and above all Dostoyevsky and the master of all psychological fiction, Marcel Proust, and learn life, psychology and the ways of social conflict. Thus will we be in an improved understanding to handle with sane judgment and human understanding that largest number of invalided persons who constitute the class of "nervous patients."

Post Operative Emotional Disorders. Their Prevention and Management.

This was the second paper appearing in the March number of *The Bulletin* of the New York Academy of Medicine presented at the Annual Graduate Fortnight by Robert B. McGraw Professor of Clinical Psychiatry, Columbia University.

"It might be truthfully said that there is practically no such diagnosis admissable as Postoperative Neurosis. It might, on the other hand, be equally truthfully stated that any kind of emotional or mental disorder might apparently be caused by an operation. Usually an operation is only an incident in the chain of circumstances leading to an emotional disorder, though it may be a rather important one."

Emotional disorders are evidence that the adapted ability of the patient has broken down in a time of special stress. Some of these times include the periods of adolescence; of childbirth and the puerperium;—plus an operation more or less serious. The immediate thing is to get the full psychiatric history of the patient; adequate history taking will eliminate many cases from the field of Surgery if the unstable mental state is recognized.

(1). "The psychic response to the operation may be unusual, due to the character of the operation, or due to the treatment and care instituted in connection with the operation.

(2). "The operation may be a severe physical shock, the postoperative period may be fraught with infection and the production of toxic products. The patient may have, therefore, toxic, infective and exhaustive features which may so operate to produce a delirium which, if prolonged, we shall be justified in calling a toxic exhaustive psychosis. This type may properly be called a postoperative psychosis provided the toxic or exhaustive effects are produced by the operation."

Treatment. There are a few general principles but many individual ones. There must be alleviation of the toxic condition; increased care should be exercised that all medical, surgical and nursing procedure be observed; intelligent nursing care by nurses trained in psychiatric clinics; sedatives to be given artfully and not routinely; patients to be treated in General Hospitals, in preference to psychopathic hospitals, whenever possible.

The Lecturer summarized his paper as follows:—"Operations are rarely, if ever, the sole cause of a neurosis or psychosis.

The careful study of the individual's adaptive abilities will prevent many unnecessary operations and will yield information leading to the correction of difficulties, which will render individuals less likely to show symptoms of emotional disturbance following operation (Postoperative neurosis).

The very confident assurance to the patient, or relative, that an operation will absolutely cure an obscure disorder, colored by a psychical maladjustment, is often pernicious and should only be done after a very careful evaluation of the data. However, it is permissible often to tell patients or relatives that an operation will help certain symptoms.

Psychoses are due to operations rarely, except with exhaustive or shock features, infection, other systemic physical disease or other mental disease which is latent.

"The toxic exhaustive type of psychosis due to operation, or occurring after operation, needs very careful handling, both from the physical and the mental sides, and this is often better done in a general hospital, provided there is trained and sufficient personnel."

S. L. W.

Doctor, Who Are Your "Commercial" Friends?

Now when the physician is beset on all sides to try products "just as good as Mead's", it is well for the physician to consider that in a commercial age when the practitioner must compete with newspaper, magazine, radio, tradesman and patent food manufacturers who practice medicine without a license, here is one manufacturer who unceasingly works for the medical doctor's economic as well as professional interests. Hold fast to that which is good,—the Mead Policy which makes Mead, Johnson & Company more than a commercial house,—a powerful ally that practises as well as preaches ethics.

A Film Demonstration.

The Department of Surgery of Dalhousie University demonstrated by a very fine film, "Infections of the Hand" to their senior classes. Members of the Halifax branch of the Medical Society of Nova Scotia were invited to be present and the lecture room of the Public Health Clinic was well filled with students and doctors. While the title indicates the main purpose of the film its chief value is in demonstrating the course an infection follows. Anterior, posterior and cross section views very clearly showed the anatomical relations of bones, tendons, sheaths and thenar spaces.

Dr. N. H. Gosse gave what was almost a lecture while the film was showing. Indeded primarily for the students it would be a fine feature for the Dalhousie Refresher Course. We trust some means can be devised that the various Branch Societies may also have the benefit of seeing it.

"And where did you skate most of the time when you were learning?" we casually inquired of the new maid at the tennis rink.

"I think you're horrid " she pouted and wobbled away.

Dalhousie Medical College

IN the last month's issue attention was drawn to the fact that a film was being prepared of Dr. Gibbs' artificial heart experiment; this film being made possible by the generosity of Messrs. Parke, Davis and Company. Up to the present time about 350 ft. of film have been made, illustrating the operation and working of the apparatus, and also the effects produced on the blood pressures (pulmonary, and systemic) of adrenalin before and after ergotoxin, histamine, and pituitrin. The immediate purpose for this film is in order that the details of the experiment may be shown to the meeting of the Federated Biological Societies of America to be held in Chicago. The preparation of this film is of interest to members of the Maritime medical profession since it is the first of its kind that has been attempted in the provinces. Already a projection apparatus is owned by Dalhousie, and certain films of great clinical interest have been obtained through the efforts of Dr. Atlee. The incident reported above is thus further evidence that Dalhousie, not only is attempting to keep in line with other places in carrying out research, but is also keeping abreast with the latest methods of teaching in which it is absolutely certain the film will play a very great part in the near future.

Department of Biochemistry. During the past year original investigation in several different subjects have been in progress. Uric acid, long regarded as an extremely insoluble compound, has been shown capable of being dissolved readily by numerous organic bases allied to the alkylamines. It has also been proved to exist in water that is essentially neutral in high concentration as a colloid capable of forming a jelly.

The products of the digestion of starch have been isolated by the most modern method of separating closely related chemical compounds—ultrafiltration. These dextrins are now being studied as to their chemical constants and characteristics.

A new method for the study of the different kinds of sugar which are found in human blood has been devised.

The composition of the sea weeds found in the Maritime Provinces has been determined by analysis. Several of our common species have been shown to be rich in potash and iodine, making them valuable natural resources. An intensive study of the carbohydrates found in them is in progress and it is possible that several practical applications may be found for them.

His many friends will be delighted to hear that Dr. W. H. Hattie, Assistant Dean of the Medical School, Dalhousie University, is rapidly regaining his health. Dr. and Mrs. Hattie left for Citronele, Alabama, several weeks ago for a well earned rest. The medical faculty and student body welcomed the return of the Assistant Dean about the 12th of April.

Dr. John Cameron, Professor of Anatomy, is busy with the preparation of several papers on Craniotomy which are to be presented at the next meeting of the Royal Society at Ottawa. He will leave for England about the middle of May, and will continue his researches during the summer months at the British Museum. Dr. Cameron has been granted the very rare and special privilege of making a scientific study of the famous Rhodesian Skull.

Report of the Department of Physiology. During the present academic year the department of Physiology has been enabled to have increased facilities for both teaching and research work. New benches and standing equipment have been added in the experimental laboratory for the first year course in Physiology. There remains yet much to be done in the way of securing the more costly pieces of apparatus which are essential for the work of the second and third year.

Facilities for research have been greatly added to by the conversion of a demonstration theatre into a private research laboratory. This laboratory has been well equipped for work on the sugar and gaseous metabolism of the normal and diabetic heart. In it have been placed 300 and 600 litre Douglas bags, a large gas meter, kaymograph, Haldane-Henderson gas analysis apparatus etc., etc.

The work at present being carried out is centered around the question of the action of insulin on the sugar storage of the normal and diabetic heart. Here an attempt is being made to estimate the utilisation or synthesis of glycogen in the diabetic organism by an accurate estimation of oxygen utilisation, care being taken to eliminate the part played by the living tissue. This work is being carried out on the dog because of the direct applicability of the results obtained to conditions obtaining in the human organism. The importance of a fuller knowledge of the many factors confronting those who are faced with the question of dealing with diabetic patients is too fully realised by medical men to require emphasising here. What does require to be stressed before the lay mind is the need of intensive study of the difficult problem of sugar metabolism. The fact that by mammalian experimentation were part advances made and insulin discovered and that largely by this type of experiment can we arrive at a knowledge of the numerous chemical factors underlying disease. And further it would be remembered, that by this type of experiment the welfare of the human subject is carefully safeguarded. To-day the medical scientist is confronted with numerous difficult problems, and here as elsewhere, the work is being hampered if not completely stopped because of the lack of material, the absence of a lively and intelligent public interest, and the determined efforts of a curiously minded minority to prevent research into the functions and disorders of the human subject.

(E. W. H. C.)

Hospital Services

THE Ladies Auxiliary of the Sydney City Hospital, on the evening of April 7th, 1930, entertained the Nurses of the graduating class at a banquet at the Isle Royal Hotel. Covers were laid for over 114 guests. A very choice musical programme was carried out and the usual toasts honored. Miss MacMillan, of the Glace Bay General Hospital, gave the special address to the eight members of the graduating class.

The Aberdeen Hospital is the richer by $1,000.00 received from the estate of the late Robert E. Chambers of New Glasgow. The amount is bequeathed to the trustees of the Hospital for any improvements without any conditions.

A new X-Ray outfit has been installed at the Hamilton Hospital, North Sydney, at a cost of $7,000. The newspaper item making the announcement says, "it is the latest in X-rays, being positively *fool* proof and shock proof."

Highland View Hospital has turned towards the Commission form of hospital management. We lean so very strongly in Nova Scotia towards Commissions that sometimes we think our public men are politicians rather than statesmen. We are inclined to favor commission hospital management and we believe their administration should not be hampered. There is one point that we think should be kept in mind. In this commission there will be no one to present medical aspect of very many business and economical matters that the Commission must consider. The medical staff of the hospital should nominate each year one of their number to act in a medical advisory capacity to the commission. We will watch this course of events with much interest.

Maritime Nurses Graduate. Some 14 young ladies from New Brunswick and 5 from Prince Edward Island were among recent graduating nurses of the Royal Victoria Hospital. The following were the graduates from Nova Scotia:—Helen Dobson, Halifax, N. S., Dorothy Gilroy, Stellarton, N. S., Laura Hennigar, Northfield, N. S., Edith Hennigar, Northfield, N. S., and Helen Reeves, Pictou, N. S.

The Union of Municipalities has presented a protest to the Government against raising the rates in such institutions as the Nova Scotia Hospital, the Nova Scotia Sanatorium, the Victoria General Hospital

and others. Of course, the Municipalities do not want to pay more nor does the public for that matter. In one institution the cost of maintenance is, say, three dollars and fifty cents per day per patient. But the patient and the municipality pay seven dollars and fifty cents *per week.* Cost $24.50 per week and revenue $7.50,—deficit $17.00 per week.

What is the solution of this problem? It has been suggested that all such institutions have a definite connection with a social health service bureau which shall report on the financial ability of each person to pay, from nothing to the full cost; the Municipalities, cities and towns will pay what the patient cannot pay. Because there are innumerable difficulties in the way is no reason why the general matter should not be considered.

No. 22 Field Ambulance C. A. M. C.

This C. A. M. C. Unit meets twice a month during the winter season. At the regular meeting on April 11th, 1930, Major Gorssline, D.S.C., S.M.O. of M.D. No. 6 was the speaker, his subject being "The Campaign in Gallipoli". He gave an unbiased report of this rather disastrous episode of the War. It would appear that lack of knowledge and poor co-operation of the three principal services brought the inevitable result. Brig. General Gisborne, Colonel Spry and Colonel Sparling were invited guests and took part in the discussion. Col. H. A. Chisholm, O.C. of the Unit, presided, relieving Major J. G. D. Campbell of this duty before the supper, which opened the proceedings, was concluded.

Port Credit, Ont., March 20.—"If a doctor refuses to attend a patient he is perfectly within his rights," said Coroner Dr. A. H. Sutton, referring to the case of a man who died suddenly at a local roadhouse, when two calls for medical aid were said to have been refused. He said it was a doctor's own privilege to choose if he was to attend a patient.

Shifting the Wheezes. He dropped his cane on an "L" station platform and made several vain attempts to stoop over to pick it up. An obliging platform man picked up the cane with the remark:

"What's the matter? A little lumbago?"

"No I bought these suspenders in Scotland and they won't give."

M. D. How are you this morning Mr. Banks?

Banks. I can only get my breath in short pants, doctor.

M. D. Miss Ross, order a pair of knickers for Mr. Banks.

Health Advertising

HEALTH advertising is the most prevailing form for many commodities, even where the relation is somewhat poorly defined. This advertising is not wholly inspired by Health Departments, Health Foundations, Health magazines, Health organizations through their official Journals, etc., etc. The corset, the skirt, the shoe, the tooth paste and cosmetics, the confections, soft drinks and teas, the flour, fruits and window glass, to reduce or increase weight,—all these are often advertised as conducive to Health.

This course is followed because there is a public belief that health is more to be desired than great riches. Increasingly the newspapers are publishing health talks, most of them both informing and scientifically sound. For these the newspapers pay a small weekly or monthly rate. As far as Nova Scotia is concerned at the present time there is no systematic Health Advertising vouched for by the Department of Public Health or the Medical Society of Nova Scotia. Some two years ago the Health Department for some nine months furnished all the newspapers of Nova Scotia with short practical health articles under the title of *Health Advice.* In point of merit these articles were sound scientifically, were remarkably readable in spite of the absence of the usual illustrative verbiage, and they carried weight with the public. They were the best Health Advertisements the medical profession in Nova Scotia could prepare, it gave the text for a very general Health Education. This service should be re-established.

Now pharmaceutical firms have hitherto been somewhat imbued with some of the Ethics of the medical profession as regards advertising. Indeed the BULLETIN solicited an advertisement from a very excellent firm in the Old Country whose preparations are known and used by almost every physician in Nova Scotia, only to be informed that the firm *did no* advertising outside of Great Britain.

But it remains for a firm like Parke, Davis & Co., to do Health Advertising of a very unique nature in non-medical high-grade magazines. In recent years there has been increasingly apparent need for some means of impressing the public at large with the importance of seeking medical advice—some way of offsetting the constant advertising engaged in by cults of one sort or another; of doing the work which, because of tradition and lack of organized effort, he is unable to do for himself. This would bridge the gap between the man and woman on the street and the physician in his office.

These advertisements have very artistic illustrations touching a large variety of diseases—diphtheria, tetanus, rabies, smallpox, tuberculosis, yellow fever, asthma, hay fever, etc. The advertisements have all been dramatic, even romantic, stories of scientific achievement. Also these articles meet the approval of the Profession and

no physician can afford to remain indifferent to this pioneering work in Health Education. To prevent disease and promote health educational work is the immediate necessity and always will be because health is an individual matter. S. L. W.

MEDICAL CARE OF INDIGENTS

There is a very great tendency to give the indigents in many parts of Nova Scotia as little medical attention as possible owing to the penury of Poor Committees and the merely nominal salary given to some appointed local doctors. Perhaps the Medical Society of Nova Scotia and the Department of Public Health might consider the following plan adopted by Lawrence County, Illinois:—"A new plan to provide medical care for the indigent of Lawrence County becomes effective, October 6, under a contract signed by the County Medical Society and the County Board of Supervisors. By this plan, an indigent person may select his own physician from the members of the county Society. The supervisors pay the Society a total of $3,500 for caring for the sick poor, one year, and the Society, in turn, pays the individual member in accordance with the amount of work which he did. Calls for medical aid must come first through the supervisors. Under the old system, three physicians were given all of the so-called pauper practice."

Treatment Outlined. Many of us regret to learn that Rev. (Dr.) Denoon has been a patient for sometime in Camp Hill Hospital. His condition and prospects were thus described in a recent issue of a large town daily newspaper:—"He looks decidedly better than when seen a few months ago, his color is good, and his blood, we understand, is back to normal. He is receiving every care at the Hospital, and in the near future he will be subjected to a series of experiments with the ultra violet rays or something of the sort with a view to the forming of new nerve centres. If the experiments should prove successful—the chances are none too good in that regard—but the wonders of present day science are past finding out—it would be equivalent to giving Dr. Denoon a new lease of life." Quite interesting but somewhat indefinite

Physicians in Halifax received a Christmas present at Eastertide something new in procedure; but that does not matter in the opinion of MacLeod & Balcom, Ltd., when they wish to please their medical friends. This Easter gift with the holly decorated card of MacLeod Balcom consisted of a genuine Luer syringe complete. It is a neat and smooth working syringe which the recipients will use with satisfaction.

OBITUARY

EVAN KENNEDY, M. D., University of Boston, 1876, New Glasgow.

WHILE he was in failing health for the past two or three years it was a shock to learn that Dr. Evan Kennedy suffered an apoplectic stroke on March 26th, 1930 and had passed away a few days later. He had been a patient at the Homewood Sanitarium Guelph, Ontario, for a few weeks in the hope that rest and treatment would be beneficial.

Unfortunately, Dr. Kennedy was one of those who could not stop and rest as long as he could attend to his professional duties. He was set in his ways and it was hard to turn him aside from the course he marked out for himself.

Evan Kennedy was born at Bridgeville, Pictou County, Nova Scotia, in 1850 being 80 years of age at his death. He attended the country school and was the first teacher in that district after the passing of the Free School Act in Nova Scotia. Later he became Principal of the school at Wallace. Later he took the Arts Course at Dalhousie and graduated in Medicine from the Boston University in 1876. He practiced for 11 years at Stellarton and then in New Glasgow for the next 42 years. In 1904 he attended the New York Post-Graduate School and in 1909 took further work in the Middlesex and other leading hospitals in London.

Dr. Kennedy was elected an Honorary Member of the Medical Society of Nova Scotia at its annual meeting in 1927. He had then been in practice over 51 years. He was always interested in the work of medical societies and was an active member of the Pictou Branch of the Medical Society of Nova Scotia up to the time he was compelled to accept treatment a few months ago. He was also a member of the Canadian Medical Association. He was a member of the session of Trinity United Church, also of Albion Lodge, A. F. & A. M. "The Bellman" himself a clerical Pictonian, writes appreciatively of the late Dr. Kennedy.

"The late Dr. Evan Kennedy was a gentleman of unusual gifts of mind and of most attractive personality. He was well known and much beloved; he was a big-hearted Christian gentleman."

His wife pre-deceased him about two years and he is survived by a son and a daughter in Calgary, who were unable to attend the funeral and one daughter living in the U. S. A., Mrs. Rene Kennedy

Morton, who accompanied his remains from Guelph to New Glasgow. The funeral took place from Westminster Church on Saturday afternoon April 5th, 1930 and was very largely attended. To those who mourn his passing the Medical Society of Nova Scotia extends sincere sympathy.

S. L. W.

The BULLETIN regrets to record the deaths of two of our Society members, Doctor Lyons and Corbin. Suitable notices will appear in the next issue.

The death took place at Trenton on March 27th, 1930, of Robert Malcolm Dunbar of Abercrombie. His funeral was largely attended, interment being in the Abercrombie cemetery. Besides his widow and two children he is survived by four sisters and one brother, Dr. W. R. Dunbar of Truro.

Dr. M. A. B. Smith of Dartmouth has the sympathy of the medical profession in the loss he has sustained by the death, March 27th, at Halifax, of his only sister, Mrs. Salter, widow of the late Frank Salter of Bridgewater. Some three weeks previously she sustained an apoplectic stroke. She was 67 years of age, a devoted church woman, and of lovely grace and character. Interment took place at Bridgewater.

The death occurred the latter part of March at Ross Ferry of Mrs. Flora Grant McDonald, aged 82 years. Dr. Wm. Grant of Wolfville, is a brother of the deceased lady. The members of the Nova Scotia Medical Society will extend to Dr. Grant sincere sympathy.

The death occurred in Chicago, March 16th, 1930, of five year old Mary Jane, daughter of Mr. Howe Ross, formerly of New Glasgow, a brother of Dr. Hugh Ross, of New Glasgow.

At his home at Margaree Forks, on March 26th, 1930, there passed away at the age of 55 years, Michael Doyle, a well-known merchant in that community. He was married in 1907 to Miss Bertha McGarry, a sister of Dr. M. E. McGarry, of Margaree Forks, and Dr. P. A. McGarry, of Canso. The Doctors McGarry were in attendance at the funeral which was held on March 28th.

Locals and Personals

DR. H. E. Killam, Kinsman's Corner, Kings County, Nova Scotia, has resigned his seat in the Municipal Council. He has been appointed to the position of Medical Superintendent of the two Municipal institutions at Waterville, the County Home and the Kings County Hospital.

Dr. G. A. Dunn, of Pictou, is President of the local Golf Club. A very successful season is expected.

The First Aid-Instruction car of the C. N. R. has been on an inspection tour. It is satisfactory to learn that it may be used as a hospital car should there be occasion. Our present method of handling patients on the railway are crude, too speak mildly.

Dr. J. A. M. Hemmeon, of Wolfville, left April 14th for a three weeks' visit to Boston, New York and Philadelphia.

Born. At St. Martha's Hospital, Antigonish, March 10, 1930, to Dr. and Mrs. P. S. Campbell, Port Hood, a son.

Dr. J. J. Carroll, Dalhousie 1924, who practised in Dominion and was engaged in Health work in the United States, has settled in Antigonish.

Doctors E. K. Maclellan and N. H. Gosse, of Halifax, were recently C. M. A. Post Graduate Lecturers in New Brunswick addressing four or five societies.

Born. At Hantsport, N. S., March 15th, 1930, to Doctor and Mrs. G. K. Smith, a son.

Dr. J. G. B. Lynch, of Sydney, has been appointed C. N. R. medical officer for the Sydney district. He succeeds the late Dr. John McDonald who held the position for many years.

Dr. Allan Morton, Assistant Superintendent of the Nova Scotia Hospital, left March 27th for a visit to hospitals in Washington, Baltimore, Philadelphia and New York. He is also interested in X-Ray work in Mental institutions.

Mrs. Weatherbe, wife of Dr. P. Weatherve, of Halifax, returned from England the last of March after placing her two daughters in school in the Old Country.

Dr. Evelyn F. Rogers, B. A. 1924 and M. D., C. M., 1927, Dalhousie, after a short visit with her mother, Commodore Apartments, Halifax, on April 1st, began duty in St. Luke's Hospital, New York City.

Mrs. Lyons, wife of Dr. J. N. Lyons, of Halifax, was a patient in the Victoria General Hospital the latter part of March.

Dr. A. F. Miller, Superintendent of the Nova Scotia Sanatorium, was the speaker at the meeting of the Halifax Rotary Club on March 25th, 1930. He emphasized the need of 100 more beds at Kentville, the establishment of a similar institution for Cape Breton and the financial obligations of Municipalities.

Mrs. Byers, widow of the late Dr. D. W. Byers, of Annapolis Royal, who spent the winter in Chicago and Minneapolis, has returned to Annapolis for the summer. She would like to dispose of the books and instruments of her late husband.

Dr. D. A. McLeod, of Sydney, President of the local Y. M. C. A., was chairman at a recent meeting which favored the erection of a new building at an estimated cost of $125,000.00.

Among members of the Men's Dress Reform party, we are told, shorts, breeches and the kilt all have their supporters. It would be most awkward if they hadn't.—*Punch.*

Dr. C. M. Bayne, of Sydney, formerly of the Nova Scotia Sanatorium, is reported to be appointed Medical Examiner in Tuberculosis for the Island of Cape Breton.

Dr. T. B. Acker, of Halifax, has had an Honorary Membership in the Canadian Red Cross conferred on him in recognition of his work for Crippled Children in the Maritime Provinces and St. John's, Newfoundland. The manner in which these Orthopedic clinics have been held in Nova Scotia has been acceptable to all practitioners, as far as we are aware. They have mostly been arranged by the Provincial Red Cross. For these, as well as tuberculosis, dental, and other clinics, some organizing agency is necessary, chiefly to develop a community interest in the particular purpose for which the clinic is held. Dr. Acker is to be congratulated upon this action taken by the Canadian Red Cross Society.

Dr. John Cameron, Professor of Anatomy in Dalhousie Medical College, sails for Scotland May 17th, 1930. He will attend and lecture before the British Anatomical Society in London in June. In August he will attend the International Congress of Anatomy at Am-

sterdam, Holland. Mrs. Cameron will accompany him on his several excursions away from Scotland. The BULLETIN trusts they will spend a pleasant summer.

Dr. J. V. Graham, who has been Port Physician at Halifax for a number of years, recently resigned to devote himself entirely to private practice. On April 1st, he was succeeded by Dr. H. A. Chisholm formerly of the Department of Public Health.

The Halifax Dental Society recently entertained the graduating class of the Dalhousie Dental College at a banquet in the Queen Hotel. Doctors Bagnall and Woodbury presented interesting papers.

Dr. J. J. McDonald is the Honorary President of the New Glasgow Athletic Club.

Dr. Fred Irwin, who has been for a number of years in practice at Honolulu, will visit his home in Shelburne this coming summer. His practice will be looked after by Dr. Sherlock McGill, who is a son of Councillor McGill of Shelburne.

The Phi Rho Sigma medical fraternity of Dalhousie held their annual banquet at the Lord Nelson Hotel April 1st, 1930. The banquet was tendered the members by the Faculty members of the Fraternity. Dr. H. K. McDonald as senior Faculty member addressed the gathering and congratulated them upon their growing membership. Art. W. Ross, President, replied, expressing appreciation of the interest taken in the Fraternity by its faculty members. John Budd and Fred McLellan furnished the music.

Born. At Halifax N. S., March 30, 1930 to Dr. and Mrs. J. H. Lyons, a daughter.

Dr. Dan McNeil, of Glace Bay, was given judgment for the full amount of his claim for damages to his car in an auto collision last October, according to a decision handed down by County Court Judge Crowe early in April. A counter claim for damages by the defendant was dismissed with costs.

Dr. F. T. McLeod, New Waterford, is the new worshipful master of the local Lodge, A. F. & A. M.

Dr. H. H. McKay, of New Glasgow, is being congratulated upon the success of his daughter, Margaret. After being engaged in Research Work at McGill, she has now been awarded a bursary worth $1,800.00 and travelling expenses by the Rockefeller Foundation for continued research work at Harvard University.

Early in April Dr. C. S. Hennigar, of Liverpool, accompanied by Mrs. Hennigar, went to the United States for a short stay owing to ill health.

Dr. S. H. Keshen, of Halifax, is the recently elected Master of Keith Lodge, A. F. & A. M.

Dr. M. D. Morrison, Halifax, Medical Advisor to the Workmen's Compensation Board was elected President of the Nova Scotia Historical Society at its recent annual meeting. Readers of the **Bulletin** will recall Dr. Morrison's review of the early history of Medicine in Cape Breton. He has been a valued member of the Historical Society ever since he came to Halifax. The Society also honored Dr. M. A. B. Smith, of Dartmouth, by electing him second Vice-President.

The following, though not of the school room, is delicious in its suggestion of reform:

"Please sir, Johnnie was kept home to-day, I have had twins. It shan't occur again. Yours truly, Mrs. Smith."