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The Treatment of Tuberculosis

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IN spite of advance made in the treatment of Pulmonary Tuberculosis since 1900, there is not yet any specific treatment. At the present time, one of every five persons dying between fifteen and forty-five, dies of Tuberculosis. The enormity of the task in preventing this appalling mortality, while it may be recognized by the profession is certainly not appreciated by the laity. In general, the prevention of this mortality is too much linked up with social and economic problems beyond medical control and as such comes in the domain of State medicine. The care and treatment of the tuberculous patient alone is not enough. The prevention of infection is all important and in this prevention the greatest factors are education in public health principles and rigid examination and re-examination of contacts. There are facilities for this in the Province, but advantage is not being taken of them. There is no specific treatment for Tuberculosis. Each case has to be considered as an entity. The treatment at best is slow and due to its long duration the mental reaction is often detrimental. In recent years the only real advance has been the more general use of collapse therapy. This, however, is not a cure all, but is simply one of the most useful aids in treatment.

The use of collapse therapy in the treatment of Pulmonary Tuberculosis while not new has had a great impetus in the past ten or fifteen years. By the broad term of collapse therapy, collapse of the lung whether by gas as in artificial pneumothorax, or by fluid as in oleothorax, or by thoracoplasty, is included. The common means of collapse is by gas or air. This is artificial pneumothorax. It is well over a hundred years, however, since Carson of Liverpool noted the improvement in Pulmonary Tuberculosis following an artificial pneumothorax. It is rather interesting to read what Carson wrote in 1821, "It has long been my opinion that if this disease, that is Tuberculosis, is to be cured, and it is an event of which I am by no means disposed to despair, it must be accomplished by surgical means or in other words by a surgical operation." He advocated collapse of the affected lung by artificial pneumothorax. This could well have been written in 1921 without it being necessary to add anything to it. Following Carson's paper the procedure was abandoned as before aseptic surgery the procedure was too dangerous. In the late years of the nineteenth century it was independently re-introduced by Forlanini working in Italy and John B. Murphy, Chicago. Unfortunately in the early years of its use it was reserved for the far advanced cases and while it was an improvement over rest alone, it was not until its general use in early cases that its great advantages were demonstrated. Recently comparisons of series of cases in large Sanatoria, with rest alone and with rest and collapse, show much better results in the group with rest and collapse. However, as is usual with a new and useful procedure it was over emphasized and it was quite often considered to be a substitute

for rest. This is certainly an error and the best results obtained from the use of artificial pneumothorax occur when it is used as an adjuvant to the usual rest cure.

The technique and procedure of artificial penumothorax is not difficult. Any of the standard apparatus for giving pneumothorax may be used. They all consist essentially of an arrangement of graduated bottles by which a known quantity of air may be introduced into the pleural cavity, and a manometer. Under local anesthetic a needle is introduced into the pleural space and a reading on the manometer is taken. When inducing a pneumothorax the initial manometer reading is negative. Air is introduced slowly and at the first attempt it is usual only to give a small quantity from one hundred and fifty to two hundred c.c. Then daily small refills are given, gradually lengthening the intervals between refills to two days, then three days, then four, five, six days, until at the end of five or six weeks refills are given about once a week and the patient usually has about fifty per cent. collapse. By increasing the quantity of air used each time the per cent. of collapse desired can be obtained. When this is done it can be maintained for a year, or two, or three, and it is usually found that the time between refills can be appreciably lengthened. Ordinarily a case which has had a collapse for a year only needs a refill every three or four weeks. At the end of the second year a refill every five weeks is usually sufficient. After two, three, four or five years the lung is allowed to expand, by lengthening intervals between refills and giving less air each time. Occasionally a lung which has been collapsed for a long time becomes so fibrosed that it will not re-expand. In this case Phrenicotomy (that is cutting the phrenic nerve which causes a paralysis of the diaphragm and thus lessens the volume of that side of the chest) is usually helpful. In some cases the collapse must be maintained for life. Small refills at intervals of two or three months will accomplish this. The degree of collapse should be checked following each refill by the fluoroscope and the chest should be X-rayed every three or six months to determine the condition of the opposite lung. The best results are obtained when a good collapse is got through the inherent elasticity of the lung with a negative or neutral pressure rather than with a positive pressure in which case it is a compression of the lung rather than collapse. However, in a large percentage of cases these positive pressures are necessary to get the degree of collapse desired.

The complications following the induction of pneumothorax are sometimes distressing. The more acute are pleural shock and gas embolism. Pleural shock which is fortunately rare varies from simple faintness to sudden death. Some people have a very sensitive pleura. The great majority of cases may continue a collapse for years and never have shock at any refill, but the occasional case has greater or lesser degree of shock at each refill. There is no means to prevent it. Care should be taken to have the pleura well anesthetized before commencing the refill and nembutal or an opiate should be given before starting. But even with these precautions it will occur. If serious shock occurs the pneumothorax must be discontinued.

Gas embolism is very uncommon since the introduction of the manometer into the pneumothorax apparatus. Before any air is allowed to flow, there must be the typical oscillations which occur when the needle is in the pleural space. Before the manometer was used, air was frequently allowed to run into a blood vessel as without a manometer it was impossible to de-

termine whether the needle was in the pleural space. This complication really belongs to the historical phase of this treatment.

Puncture of the lung occurs frequently especially when the two layers of the pleura are adherent. This is recognized by the typical oscillation of the manometer in this condition. The puncture usually seals itself with no ill-effects, but infection may possibly be spread from the lung to the pleura and a tuberculous pleurisy started.

Surgical Emphysema occasionally occurs. This is due to the needle slipping out of the pleural cavity and air being introduced into the chest wall. While distressing it is usually trivial. If air does get in the chest wall it is usually absorbed in a day or two.

Pain during the procedure is rare. Occasionally it may be experienced with the nervous type of patient, but in these cases it seems to be a minor type of pleural shock or a nervous reaction. An uncomfortable tightness of the chest may follow a refill. In this case it is usually due to stretching of pleural adhesions. If this is severe aspiration of about one hundred c.c. of air usually affords relief.

A sudden, severe, agonizing pain following a refill may be due to a ruptured lung or torn adhesions causing a spontaneous pneumothorax in an already artificial pneumothorax. In these cases aspiration of some air gives relief.

Dyspnoea occurs sometimes after a refill. This usually occurs in the type of patient who is liable to complain of pain. If the dyspnoea is severe withdrawal of one hundred or two hundred c.c. of air is all that is usually necessary.

Febrile reactions sometimes occur. They also occur in the type of patients who may have pain and dyspnoea. They are much more liable to occur in early cases following large refills. This reaction as a rule does not amount to much and clears up quickly. It is really a manifestation of shock, rather than infection.

Infection from needle tract should be conspicuous by its absence. It often occurs in aspirations for Tuberculous Empyema, but should never occur in a simple pneumothorax. The occurrence of needle tract infection is so prevalent in aspirations for Empyema that as a routine in many hospitals, solutions of the antiseptic dyes are introduced into the pleural cavity before the needle is withdrawn.

The above are some of the rarer complications and sequellae. There is another. It is the bane of pneumothorax—pleurisy with effusion. It occurs in thirty to fifty per cent. of cases. Nothing seems to prevent this complication. It occurs whether air is used or gas. It apparently is a true tuberculous pleurisy rather than a transudate. While the bacillus of tuberculosis may not be recovered in the exudate, the fluid is that of a tuberculous exudate and must be treated as such. Burrell, an English authority on pneumothorax, noted that in tuberculous cases on which he induced pneumothorax, forty-two per cent. later had effusion, and that in non-tuberculous cases that he collapsed, less than two per cent. developed effusion, which rather supports the view, that this effusion is a tuberculous exudate. This effusion is the rule rather than the exception and often is not detrimental and may occasionally be very beneficial. When a patient develops an effusion there is some pleural re-action which greatly lessens the absorption of air, and following a simple effusion it is usually found that the interval between refills may be greatly increased. The treatment of these effusions is that of a tuberculous

effusion in general. If the fluid is small in quantity and not embarrassing the patients and there is no indication from the temperature that an empyema has developed, it is left alone. If the fluid is sufficient in quantity to embarass the patient, it should be aspirated and replaced by air. If the symptoms point to empyema, aspirations and irrigations with weak solutions of methylene blue are used. If following this aspiration and irrigation the empyema is persistent oleothorax may be tried. If this is not successful, a thoracoplasty must be considered.

Pneumothorax is usually used in unilateral cases, but may sometimes be useful in bilateral cases. In unilateral cases the indications for pneumothorax are, or at least pneumothorax should be considered in (a) Any definite area of tuberculosis of more than slight extent; (b) Acute disease especially in young subjects; (c) in those cases in which rest clearly does not cure the condition. (If after a month or two of absolute rest the lesions are still progressive, pneumothorax is indicated); (d) In any person who has to earn his living and cannot afford the long stay in bed necessary for cure by rest alone; (e) Hemorrhage; (f) Cavitation; (g) Toxic manifestations. In bilateral cases pneumothorax is considered in the most affected lung if there is evidence of quiescence in the least affected lung. If this compression is not carried too far it may be very successful and will not light up the contralateral lung. Pneumothorax in bilateral cases has to be carefully watched. Bilateral pneumothorax, either both lungs at the same time or successively is used, but there is a much greater danger than in a unilateral collapse. The best results from collapse follow a complete collapse and of course, it is impossible to give a very high degree of compression to both lungs at the same time.

The type of case which gives the best results following pneumothorax is the acute unilateral disease of young people. In unilateral cases it is common to get complete resolution of the tuberculous focus by a good collapse, and after expansion the X-ray shows only very slight fibrosis at the site of the original focus. In bilateral collapse the best result which is usually obtained is a quiescent chronic fibroid lesion.

The contra-indications for pneumothorax. (a) If the lesions are healing satisfactorily and the patient can afford the time and money necessary for long rest treatment, pneumothorax is hardly indicated. (b) When there is much adherent pleura efficient collapse is usually impossible and if this is so pneumothorax is useless. However, sometimes a small selective collapse may be obtained even in the presence of adhesions and this is quite useful. (c) In advanced cases as a last resource it is hardly indicated as it only adds to patients discomfort. (d) Cases of a neurotic tendency do poorly with this treatment and in general are such poor subjects that the collapse quite frequently has to be abandoned. (e) Acute bilateral disease is usually a contra-indication as by compressing either lung there is usually a flare up in the contralateral line.

Course of Treatment

The irreducible period of bed rest for Pulmonary Tuberculosis whether or not collapse is used is six months. When using pneumothorax in an early adult case, bed rest for six months is necessary. At the end of the six months period if an efficient collapse is present (at this stage a collapse should be from seventy to ninety-five per cent.) and no effusion is present and sputum negative and the patient symptom free, he is put on limited exercise. This exercise

is gradually increased in the absence of symptoms until at the end of a year or a year and a half, patient is restored to his natural mode of living. Of course, he must remember he has had tuberculosis and avoid excess in everything. The collapse is usually maintained from two to five years and before re-expansion it is often necessary to do a Phrenicotomy. This is the course of the ideal patient. It is doubtful whether thirty per cent. of the cases conform to this picture. In at least forty per cent. of the cases at the end of the six months' period the patient has effusion. Then a second six months' period is necessary. The fluid is aspirated and replaced by air if necessary. Phrenicotomy may be necessary. If the fluid is persistent and even slightly pusy, oleothorax may be necessary. Oleothorax is a fluid collapse. Gomenol in oil is used and a neutral pressure is maintained in the pleural cavity. It works remarkably well in some cases and it has a great advantage over pneumothorax in that the oil has to be drained at intervals of three months only. In unsuccessful pneumothorax cases, thoracoplasty has to be considered. For a great many years thoracoplasty was only used in the far advanced cases and consequently gave very poor results. With the present two, three, or four stage operation in patients in good shape and with unilateral disease, the mortality is only five per cent. and the results are very good. For a person with unilateral disease in which it has been found impossible to get a satisfactory collapse with pneumothorax, thoracoplasty appears to be the only feasible treatment. Once cavitation has been demonstrated, collapse must be used if the patient can stand it, as without collapse the patient has only a one in five chance of living six years. Phrenicotomy gives a fifteen to twenty per cent. basal collapse. It is rarely used alone, but usually in combination with pneumothorax, or oleothorax, or thoracoplasty, in the cases in which the base of the lung is to be collapsed. Reviewing the course of treatment in collapse cases: (a) Bed rest and observation for a month or so with X-ray and fluoroscopic exams to determine the extent and tendency of the disease. (b) If pneumothorax is induced bed rest for six months. If the collapse is efficient then graduated exercises are given. (c) If collapse is not efficient bed rest must be continued and if fluid is present it must be treated by aspirations and if necessary by oleothorax. Phrenicotomy may be considered at this stage if basal collaspe is needed. (d) If the collapse is inefficient, thoracoplasty with or without previous phrenicotomy may be used.

There are a great number of tuberculous patients in which collapse is not indicated. Average statistics of Sanatoria show forty to fifty per cent. cases getting pneumothorax. Of the cases which do not go to Sanatoria it is safe to assume that the greater percentage are not suitable cases for collapse. The treatment of these is more or less elastic and must suit the individual case. In the young active case, not suitable for pneumothorax, prolonged rest gives the only hope. In the older type of chronic lesion moderate exercise is usually beneficial. The general measures of building up the general health by rest, air and food are unfortunately all that can be offered this class of patient. Complications are treated as they arise. Tuberculous laryngitis is one of the most distressing. The usual onset of symptoms is hoarseness and pain on swallowing which is usually referred to the ear. Treatment consists of enforcing absolute silence in an effort to heal the affected larynx. If ulceration has occurred the ulcer may be touched up with the electric cautery which is generally satisfactory. With routine Sanatorium care this complication has become much rarer. Gastro-intestinal tuberculosis is common.

Symptoms of indigestion, nausea, vomiting, colic and diarrhoea in tuberculous patients should be considered as Gastro-intestinal tuberculosis, even though the X-ray shows no ulceration. The treatment is a bland diet with vitamins A, C and D particularly. Cod Liver oil and tomato juice has quite a vogue in this condition. Ultra violet light is also very useful. Renal tuberculosis is fairly common. If the pyelogram shows the disease confined to one kidney and the patient's condition is good, Nephrectomy under spinal anesthesia is indicated. Tuberculous meningitis is often the final picture of tuberculous patients. For this nothing can be done.

From time to time various drugs, sera, etc. have been advanced in the treatment of tuberculosis. Among the better known of these is Sanocrysin. It is a gold salt. Some have reported good results from this treatment but in general very little particular advantage has been found. However, it often causes a diminution of the amount of sputum and frequently changes a positive sputum to a negative and as such is a help. Given intravenously it may cause a severe reaction. At present there is a preparation of Schering's, Solganol in oil, of similar formula which is given intramuscularly and causes no reaction. Anti-tuberculous serum has been tried and found to be of no use. Tuberculin apart from its value as a diagnostic agent is of no use. Shock therapy with foreign proteins, etc., is sometimes used in cases which do not respond to any other type of treatment. Occasionally the shock induced may help the condition but is often quite harmful. Calcium intravenously has had a vogue, but beyond improving the type of patient who has continual blood streaking does not appear to have much action on the course of the disease. Sodium Morrhuate, the sodium salt of cod liver oil, given subcutaneously has also had an extensive trial, but after checking the results with rigid controls there was no evidence found that it influenced the course of the disease.

The treatment outlined in this paper has been more from the viewpoint of the general practitioner than that of the specialist. This treatment is far from satisfactory. The limits of mechanical therapy and rest therapy have apparently been reached. The present status of lung surgery in treatment is not highly satisfactory, being still more or less experimental. What the future holds is hard to foretell, but without the advent of a specific antiserum it is certainly gloomy. It is to be sincerely hoped that in another one hundred years, anyone reading the literature of 1934 on the treatment of Tuberculosis, will not be able to say as can be said today while reading Carson's paper of 1821, that the progress in treatment in one hundred years has been very slight.

Methods for Determining Susceptibility to and the Prophylatic Use of Sera and Vaccines in the Prevention of Diphtheria and Scarlet Fever.

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DIPHTHERIA

Schick Test.

THE Schick Test as devised by Schick in 1913 has been employed extensively for a number of years and when properly conducted and interpreted has proven its reliability and practical value in determining those individuals susceptible or immune to diphtheria as measured by the antitoxin content of the blood. Von Behring and other workers have determined that the presence of approximately 1/30 unit of antitoxin per cubic centimeter of blood serum will protect a human being against diphtheria.

In conducting this test a control is also necessary in order to detect pseudo reactions in individuals who are sensitive to the autolyzed protein of the diphtheria bacillus present in the culture broth.

The Schick Test consists in injecting intradermally into the skin of the flexor surface of one forearm, 1/10 c.c. of Schick test material containing not less than 1/50 nor more than 1/30 of a minimal lethal dose of diphtheria toxin. A minimal lethal dose is the smallest amount of diphtheria toxin that will kill the average 8 to 10 ounce guinea pig in less than four days.

For the control test a like amount of solution of the same toxin, which has been heated to 70°C. for 5-10 minutes, is injected intradermally into the opposite arm. Heating destroys the toxin, but only slightly the amount of autolyzed protein and other substances present in the solution which might cause an allergic reaction.

The Schick test and its control should be read from 5 to 7 days after the injections are given. At this time the following types of reaction may be observed:

(1) *A positive reaction.* In this reaction there is an area of redness or pigmentation at the site of the toxin injection, with no reaction at the site of the control injection. This result signifies that the individual's blood contains an insufficient amount of antitoxin for protection and therefore may develop the disease.

(2) *A negative reaction.* There is no area of redness or pigmentation at either site. Provided the test has been properly carried out this reaction indicates immunity to diphtheria.

(3) *Pseudoreaction.* In some individuals, particularly in children over 6 years of age and adults, a reaction develops at the site of the toxin and control injections. This is due to a hypersensitiveness of some individuals to the autolyzed protein of the diphtheria bacillus present in the test and control material. If a reaction develops at the sites of both injections, runs a similar course, reaching a maximum intensity on the 3rd or 4th day, and

then fading, the reaction is classed as a pseudoreaction—the individual being hypersensitive to the protein of the diphtheria bacillus, but immune to diphtheria.

(4) *The combined true and pseudopositive reaction.* In this reaction the redness and infiltration at the site of the toxin injection will be more marked at the end of twenty-four hours than at the site of the control injection. At seventy-two hours the positive reaction will be quite distinct, while the control will usually show only an area of pigmentation. If the test is positive, the reaction at the end of 5 to 7 days will be much more marked at the site of the toxin injection than at the site of the control. A combined true and pseudopositive reaction indicates susceptibility to diphtheria. All doubtful reactions should be considered as positive.

Active Immunization Against Diphtheria

Toxin Antitoxin.

The first material used for active immunization against diphtheria was toxin antitoxin. It was Theobold Smith who, in 1907, suggested that toxin antitoxin, which for some years prior to this time had been used in the immunization of horses, might be used for the purpose of producing active immunity against this disease in man. This was finally accomplished by von Behring who, in 1913, demonstrated the safety of this procedure by innoculating several human beings.

Toxin antitoxin contains the toxin of the diphtheria bacillus and diphtheria antitoxin, the toxin in excess to such a degree that the mixture is only slightly toxic for the guinea pig. In communities where this material was extensively used, a marked decline in the incidence of, and deaths attributed to diphtheria was noted. However, certain disadvantages were associated with its use:

1. In the beginning toxin antitoxin contained horse serum. For this reason it was contraindicated in allergic persons, and in addition produced in some individuals a state of anaphylactic sensitization to the future use of sera produced in the horse. The substitution of goat or sheep serum for horse serum overcame this latter disadvantage.
2. On freezing, toxin antitoxin is rendered toxic by the disassociation of the toxin and antitoxin. One instance is on record where a number of deaths occurred following the use of such a material.
3. At ordinary temperatures toxin antitoxin loses its potency rather quickly and therefore must be kept continuously in a cool place until used.
4. Three injections immunized on the average only 60 to 70 percent. of susceptibles as indicated by the Schick test.

Toxoid (Anatoxine Ramon).

For a number of years toxin antitoxin was the only material available for active immunization against diphtheria. However, in 1923 Ramon of the Pasteur Institute prepared a formalized toxoid which was completely atoxic. He established its value by the successful immunization of a number of children.

Toxoid is prepared by growing a suitable strain of the diphtheria bacilus in veal infusion broth for a period of 6 to 7 days, after which time the bacteria are removed by filtration. To detoxify this filtrate, 0.4 per cent. of formalin is added and this formalized toxin is held at a temperature of 37°C. until detoxification is complete which usually takes a period of from one to four

weeks, after which time it is tested for atoxicity, sterility, and potency. A potent toxoid should contain not less than 12 flocculating units per c.c.

Toxoid is to be preferred over toxin antitoxin in that it is atoxic; the addition of formalin and the aging process, while destroying the toxic properties, does not affect its antigenic properties. It contains no serum and therefore there is no possibility of producing a state of hypersensitiveness to the future use of any serum. It is stable, and is not rendered toxic by freezing. It can be kept at ordinary temperatures without loss of potency for quite some period of time. Three doses of .5 c.c., 1 c.c., and 1 c.c. respectively, allowing an interval of two to three weeks between doses, will immunize 90 to 95 per cent. of susceptibles as determined by the Schick test.

Alum Precipitated Toxoid.

Glenny, Pope, Waddington, and Wallace[1], in 1926 found that the addition of alum to diphtheria toxoid greatly increased its antigenic value and Glenny and Barr[2] decribed the complete precipitation of diphtheria toxoid with alum in 1931. In 1930 Havens and Wells of the Alabama State Department of Health endeavored by laboratory experiments to perfect an alum precipitated toxoid, one injection of which would produce immunity. Their product was first used by Graham[3] in a group of children with encouraging results in 1931. Graham, Murphree and Gill[4] in 1933 reported 96 per cent. immunity resulting from a single injection in another group of children. In 1933 McGinnis and Stebbins[5] of Virginia, using Havens' alum precipitated toxoid obtained approximately 95 per cent. immunity in a group of 579 Schick positive children following a single dose of 1 c.c. In 1934 McGinnis, Stebbins, and Hart[6] further report that in a group of 1765 Schick positive individuals given 1 dose of .5 c.c. or 1 c.c. of alum precipitated toxoid and retested 2 months later, 94.4 per cent. of these were found to have been rendered Schick negative. Baker and Gill[7], 1933, report 99.01 percent. Schick negatives following 1 dose of 1 c.c. alum precipitated toxoid in a group of 1,400 children on whom the Schick test was not carried out before treatment. In the same article these investigators also report 100% Schick negatives in a group of 197 Schick positive children following the injection of 1 c.c. of alum precipitated toxoid.

Reports have been circulated that reactions following the use of alum precipitated toxoid have been more severe than those following the use of untreated toxoid. Studies have been carried on by McGinnis, Stebbins and Hart[6] in Virginia, and by Baker and Gill[7] in Alabama to determine if reactions following the use of this material are of sufficient severity to limit its use. In Virginia one group of 353 Schick positive individuals, mostly of preschool and school age, were observed following the administration of alum precipitated toxoid. In another group of 93 originally Schick positive individuals, a parallel series of observations were made in which one individual was given 1 c.c. of alum precipitated toxoid and the next 1 c.c. of untreated toxoid. The temperature of each child was taken before the injection, and again at the end of 24 and 48 hours afterward. Histories were taken and observations made daily until all symptoms subsided. The results of these observations led to the following conclusion: "Reactions following the administration of alum precipitated toxoid are not of sufficient severity to limit its use, nor are these reactions of greater severity than those following the administration

of untreated toxoid. Baker and Gill also report in a series of 16,289 inoculations, "that as a rule local and general reactions were not severe."

Abscess formation at the site of inoculation has been described. In one group of over 3,000 children in Virginia given a single dose of .5 or 1 c.c. of alum precipitated toxoid only one developed an abscess at the site of injection. In another group of 112 individuals receiving 1 c.c. of alum precipitated toxoid from a particular lot number, 12 developed abscesses, which required surgical attention. Material from each one of these abscesses was cultured and in all instances was found to be sterile. This occurrence was reported to the National Institution of Health for investigation. In Alabama[7] 8 abscesses are reported following the inoculation of 16,289 children. It is quite possible that abscess formation may, in many instances, be due to carelessness on the part of the person administering the injection in failing to keep the precipitate in suspension. In conducting clinics it is the general rule to use a 10 c.c. syringe holding 10 doses; should the material not be shaken well between each dose the alum will precipitate out, and as a result those given the last couple of doses will receive an excessive amount of alum which may result in the formation of a sterile abscess. The use of one dose of alum precipitated toxoid is becoming more and more general throughout the United States, it has already been officially adopted as standard by the Pennsylvania, Maryland, Virginia, and Arizona State Health Departments, and the City of Pittsburg.

SCARLET FEVER

Dick Test.

The Dick test is used to determine susceptibility or immunity to scarlet fever as measured by the antitoxin content of the blood. In carrying out this test a control is not necessary, pseudoreactions being rare, occurring in less than 5 per cent. of individuals.

The Dick test consists in injecting intradermally into the skin of the flexor surface of the forearm 1/10 c.c. of Dick material containing 1 skin test dose of streptococcus scarlatinae toxin. A skin test dose is that amount of scarlet fever toxin which causes, in slightly susceptible persons, a slightly positive reaction. This test must be read 20 to 24 hours after the injection. A positive reaction is manifest by an area of redness, varying from a faint pink to bright red, 1 cm. or more in diameter.

Active Immunization Against Scarlet Fever.

Scarlet Fever Toxin.

The toxin of the streptococcus scarlatinae has, up until very recently, been our only means for producing active immunization against scarlet fever. In using this material the Connaught Laboratories recommend five doses at weekly intervals, the first dose containing 330 skin test doses, the second 1,000, the third 2,300, the fourth 5,000, and the fifth 10,000 skin test doses. By following this procedure at least 60 to 70 per cent. of susceptibles are rendered immune.

Scarlet fever toxin for the prevention of scarlet fever has not been as extensively used as has toxin antitoxin and toxoid for the prevention of diphtheria. Reactions, both local and general, are more common and more severe, and this, along with the time element involved in administering five doses, has more or less limited its use to institutions, and to communities where scarlet fever has presented a problem.

Scarlet Fever Toxoid.

A scarlet fever toxoid as prepared by Veldee[8] of the United States Public Health Service will shortly be available for use in producing active immunization against scarlet fever. This material is prepared in a similar way as diphtheria toxoid only the toxin of the streptococcus scarlatinae is used in place of the toxin of the diphtheria bacillus.

Veldee reports that three doses of .5 c.c., 1 c.c., and 2 c.c., containing 20,000 skin test doses per c.c., given at weekly intervals will render 70 to 85 per cent. of susceptibles immune one month after the last dose. Local and general reactions following the use of this material in children are neither more severe nor more frequent than those following the use of diphtheria toxoid, and much milder than those following the use of scarlet fever toxin.

Passive Immunization Against Scarlet Fever.

Scarlet Fever Antitoxin.

Large numbers of susceptible contacts (as determined by the Dick test) of cases of scarlet fever have been protected against this disease for a period of from 3 to 6 weeks by the prophylactic use of scarlet fever antitoxin.

At the Hospital for Sick Children in Toronto it is a routine practice to Dick test all patients on admission. All positive reactors receive a prophylactic dose of 2 c.c. of scarlet fever antitoxin. From 1921 to 1924 (Fitzgerald)[9] among 26,639 patients admitted to this hospital before the above procedure was introduced, 120 cases of scarlet fever occurred, an incidence of 0.5 per cent., while from 1925 to 1931, among 40,000 admissions, who were either Dick negative or received a prophylactic dose of 2 c.c. of antitoxin only 5 cases occurred, an incidence of 0.01 per cent., or 1/50 the rate during 1921 to 1924.

To prevent the spread of scarlet fever from a clinical case to familial or other contacts, a simpe procedure to follow in general practice is to Dick test all contacts, observe the reaction 20 to 24 hours later, and to those reacting positively administer a prophylactic dose of 2 c.c. of scarlet fever antitoxin.

Scarlet Fever Convalescent Serum.

The use of serum obtained from persons convalescing from scarlet fever is also being used prophylactically for the prevention of this disease in contacts. The dosage is usually 5 c.c. to 10 c.c. Scarlet fever convalescent serum has the advantage over scarlet fever antitoxin in that reactions following its use are either absent or very mild, and in addition individuals are not rendered sensitive to horse serum. The chief drawback to its extensive use is the difficulty encountered in obtaining a sufficient supply of the serum to meet the demand.—(*To be Continued*)

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The Observation and Co-Ordination of Some Neurological Signs

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OF all subjects in medicine neurology is one in which the art of clinical diagnosis has reached the highest degree of accuracy. This is the result of the knowledge which has been accumulating since clinicians commenced to apply physiological principles in the interpretation of neurological signs and symptoms. Today the practitioner has at his disposal a system of clinical examination whereby he looks for special signs and provokes certain phenomena to directly interrogate the principal divisions of the nervous system. Thus, in studying any neurological case, he considers movement, tone, sensation, the reflexes, the mental and emotional state and the intellectual functions. By co-ordinating the signs obtained he can usually arrive at a correct diagnosis providing that the nervous lesion has interfered with some of these functions.

In the compass of a single paper it would be impossible to adequately consider the diagnostic value of all neurological signs. Therefore it is proposed to limit the discussion to the reflexes most commonly of use in clinical neurology.

It will be recalled that a reflex is the simplest form of involuntary response to a stimulus and is fundamentally dependent on the integrity of the reflex arc. This consists of (1) a sensory surface, (2) an afferent path running from the periphery to the brain stem or spinal cord, (3) one or more intercalated neurones in the central nervous system linking the afferent path with, (4) the afferent path which leaves by way of the lower motor neurones, and (5) the muscle end plates. Superimposed upon, and influencing this simple arc, is a cerebral arc whose centrifugal neurone runs in the pyramidal tracts. Lesions of any portion of the simple reflex arc will diminish or abolish the reflex. Lesions of the pyramidal tracts anywhere in their course from the cerebral cortex to the lower end of the spinal cord tend to enhance tendon reflexes and diminish or abolish cutaneous reflexes.

Reflexes which involve the cranial nerves are:

(1) The Pupillary reactions.

(a) The light reflex: In eliciting this the patient should be asked to look at a distant object in order to eliminate contraction due to accommodation-convergence, and the opposite eye should be covered to prevent a consensual reflex. The speed, magnitude, and length of maintenance of the reaction are important. It is sometimes difficult to distinguish a light reflex in old people with hypertension because the pupil is often contracted due to straightening of the spiral ciliary arteries by the high pressure. The normal pupil contracts rapidly and retains the reaction as long as the stimulus is applied. Failure of the pupil to react to light is known as reflex iridoplegia. A special form of this, in which reaction to light is lost and accommodation is preserved, is known as the Argyll Robertson pupil. Its commonest cause is

syphilis of the nervous system. It is usually present in tabes and general paresis and frequently in meningo vascular syphilis, and it is one of the most useful single signs in clinical neurology.

Loss of the light reflex may also occur with lesions of (1) the optic nerve; eg. atrophy, neuritis or tumour, (2) of the optic tract; eg., pressure from pituitary tumours, (3) central lesions in the upper part of the mid brain; eg., tumours, vascular lesions, alcoholic polyneuritis, encephalitis lethargica, and, very rarely in disseminated sclerosis and syringomyelia; (4) lesions of the third nerve; (5) rarely as a congenital abnormality.

With any of the first three groups the reaction on accommodation-convergence may be, and usually is, preserved; while with lesions of the motor pathway (third nerve) this reaction is usually lost.

(b) The reaction on accommodation may sometimes be absent while the light reflex is preserved. This is seen with some mid-brain lesions, most commonly as a sequel of encephalitis lethargica. It is also seen in post diphtheritic paralysis, the lesion being either nuclear, neuritic, or in the ciliary muscle.

A rare cause of apparent loss of the light reflex, with which loss of the knee and ankle jerks may be associated, is the so-called tonic pupil. In this condition the pupils may be unequal and one or both may appear to be fixed, both to light and on accommodation. It is frequently mistaken for an Argyll Robertson pupil, especially if the tendon reflexes are found to be absent. In this instance I recall the case of a middle aged woman who complained of impairment of vision of fairly rapid onset. The defect appeared to be due to loss of accommodation with which there was associated inequality of the pupils both of which also seemed to be fixed to light. The tendon reflexes were absent on one side and diminished on the other. Despite the improbability of syphlitic infection, and in the absence of confirmatory signs, an over hasty diagnosis of tabes was made. Later, when the blood and spinal fluid revealed no abnormalities, and after it was noted that her pupils varied considerably in size from day to day, re-examination showed that the pupils did react to light through a wide range although the reaction took about an hour to become complete. The final diagnosis was, tonic pupils with absent tendon reflexes.

(2) The Corneal Reflex: This is elicited by stimulating the cornea with a wisp of cotton wool. The normal response is blinking of the eylids of both eyes. Bilateral loss of blinking to stimulation of the cornea indicates a lesion of the fifth cranial nerve or its spinal nucleus on the side stimulated. Absence of blinking on the side stimulated indicates a lesion of the nucleus or fibres of the seventh nerve on that side because the stimulus is painful and the intact seventh nerve on the opposite side enables that eye to be closed, while damage to this nerve on the non-blinking side has not permitted of a response. Loss of the corneal reflex is one of the earliest signs of involvement of the fifth nerve and, when it is seen with a case which might otherwise be diagnosed as true tic dolereaux, it immediately leads one to a diagnosis of organic disease of the nerve or ganglion. This reflex is frequently absent in states of deep coma and hysteria.

(3) The Pharyngeal Reflex: This is elicited by a touch upon the posterior pharyngeal wall. The normal response is constriction of the pharynx. With unilateral paralysis of the vagus there is no response on the affected side.

Tendon Reflexes: Those commonly examined are the arm jerks, knee jerks and ankle jerks. The condition of these reflexes in nervous disease is usually of localizing value, and when considered in conjunction with other physical findings, they are of assistance in making a general diagnosis.

(1) The knee jerk is elicited by striking the quadiceps tendon, the normal response being an extension of the knee. The centre of the arc lies in the second, third and fourth lumbar segments of the cord and the peripheral nerve involved is the anterior crural.

This reflex may be altered in the following ways:

(a) Increased.
(b) Diminished.
(c) Abolished.

No reflex should be considered absent until reinforcement has been applied by directing the patient to clasp his hands together and to pull hard at the moment he is told to do so (just before the tendon is struck).

An increased reflex may be due to disease of the pyramidal tract, or to anxiety, painful conditions about neighbouring joints, and with certain debiliting diseases such as pneumonia, typhoid and tuberculosis. For practical purposes only the first three conditions need be considered.

In every neurological case it is important to know whether or not pyramidal disease is present. If examination reveals exaggerated tendon reflexes, especially unilateral exaggeration, and if there is no local painful condition present, pyramidal disease should be suspected and confirmatory signs looked for, such as extensor platnar responses or absent abdominal reflexes.

If one is confronted with the problem of deciding whether the seriously ill, febrile child, with painful legs and very tender joints, is suffering from rheumatic fever or pre-paralytic poliomyelitis, an increased knee jerk favours the former while a diminished or absent one suggests polio. There are instances where this may be the only possible way of making an early diagnosis at the bed-side.

Diminution or absence of the knee jerk may result from lesions of:

a. The afferent limb of the reflex arc. This occurs most commonly in tabes. An absent knee jerk is always suggestive of this condition and prompts search for confirmatory signs such as loss of pupillary light reflexes and diminished appreciation of pin prick on the nose and over the chest and ulnar borders of the fore-arms.

b. The centre in the cord; eg, myelitis, poliomyelitis and progressive muscular atrophy.

c. The efferent loop of the arc (anterior crural) as by toxic, infective or trautmatic neuritis of the anterior crural nerve.

d. The muscle; eg, in the muscular dystrophies.

e. In conditions of neural shock (trauma to the spine and head) and with some cases with increased intracranial pressure; more especially that which usually accompanies cerebellar tumours in children.

f. Rarely as a congenital defect.

(2) The ankle jerk is elicited by a blow on the tendo-Achilles, the response being plantar flexion of the ankle. The centre is in the first and second sacral segments of the cord and the peripheral nerve involved is the sciatic.

In general, this reflex is increased or diminished similarly to the knee jerk.

In tabes, loss of the ankle jerk frequently precedes loss of the knee jerk by some time. If there is no history of sciatica the absence of even one ankle jerk should prompt a search for other early signs of tabes. In many instances the diagnosis will be confirmed and treatment instituted several years earlier than if one waited for loss of the knee jerks.

In the early stages of an attack of sciatic neuritis the ankle jerk may be lost on the affected side. In long standing and severe cases the reflex is permanetly abolished.

A lesion of the first or second sacral segments of the cord, or compression of the roots of the cauda equina by tumour, fracture (callus) or arachnoiditis, may diminish or abolish the ankle jerk. In such cases these reflex changes have localizing value only.

3. The arm reflexes commonly sought for are: (a) The triceps jerk. This is elicited by a blow upon the triceps tendon. The normal response is extension of the elbow. The centre is in the sixth and seventh cervical segments of the cord and the efferent limb runs in the musculo spiral nerve.

(b) The biceps jerk which is obtained by striking the biceps tendon. The normal response is flexion of the elbow. The centre is in the fifth and sixth cervical segments and the peripheral nerve is the musculo cutaneous.

(c) The supinator jerk is a flexion of the elbow obtained by striking the styloid process of the radius. The centre is in the fifth and sixth cervical segments and the peripheral nerve is the musculo spiral. It is sometimes absent in healthy subjects and this diminishes its value as a diagnostic aid.

Diminution or loss of the biceps and triceps jerks indicates a lesion of the reflex arc; eg, if weakness and wasting are associated the lesion is either in the anterior horn cells (poliomyelitis, progressive muscular atrophy), or in the peripheral nerve (neuritis), or in the muscle (myopathy). Before one can decide which of these various portions of the arc is at fault it is usually necessary to note the presence or absence of other signs as well as to consider the mode of onset and progression of symptoms. Sudden paralysis without sensory disturbance occuring in the course of an acute febrile illness would suggest involvement of the anterior horn cells in acute anterior poliomyelitis. On the other hand, similar paralysis of slow origin, and with little or no constitutional disturbance, would indicate chronic disease of the anterior horn cells, the so-called progressive muscular atrophy. Symmetrical paralysis of both arms accompanied by tenderness of the muscles and impaired cutaneous sensibility is seen with toxic or infective polyneuritis.

Increase of the arm reflexes is seen with pyramidal tract disease if the lesion is above the centres concerned.

Cutaneous Reflexes commonly sought for are the abdominal, cremasteric and plantar.

(1) The abdominal reflexes vary considerably even in health, so variations in disease should be considered only in conjunction with other data. Inequality of the reflexes of the two sides is seen when there is pyramidal disease on one side. Variation in the reflexes in one side is frequently of localizing value with tumours and other focal lesions of the spinal cord; eg, abolition of the lower abdominal reflex with preservation of the epigastric reflex would point to a lesion below the eighth dorsal segment.

The cremasteric reflex has its centre in the first and second sacral segments of the cord. It is frequently absent in the aged. It is absent in lesions involving the centre and in the early stages of organic hemiplegia. It is pre-

served in hysterical hemiplegia and thus it is a useful reflex to look for when it is difficult to decide between organic disease and hysteria.

(3) The plantar reflex is classed along with the Argyll Robertson pupil as one of the most useful single signs in neurology. The stimulus is a scratch upon the outer border of the sole of the foot. The normal response after infancy is plantar flexion of the toes with which dorsiflexion of the foot is often associated. An extensor plantar reflex often called a positive Babinski reflex or up going toe—consists in an upward extensor movement of the great toe (the direction taken by the other toes is of little practical importance although much elaborated by some writers). An extensor plantar response indicates an organic lesion of the pyramidal tract unless it has been obtained in an infant under two, and in states of deep coma, in sleep or after epileptic fits. In many instances the type of response exhibited may be the deciding factor in the differential diagnosis between an organic and a functional disease of the nervous system.

Conclusion: It will be readily appreciated that apart from the extensor plantar reflex and Argyll Robertson pupil disturbance of the other reflexes does not necessarily imply organic disease of the nervous system. As the different reflexes were discussed both their value and limitations as isolated phenomena were mentioned as well as the associated symptoms and signs which may be looked for at the bedside to strength or disprove the diagnosis provisionally formed in the mind of the examiner by the finding of abnormalities in the reflexes.

Two Years in Europe

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AT Montreal, July 1st, 1932, I embarked on the Duchess of Athol with others who were going to the Centennial of the British Medical Association, which was to be held in London.

After an enjoyable ocean voyage followed by a tour of the British Isles, we spent the week of the Centennial in London, during which time no hospitality could excel that of the British. I then made my way on to Edinburgh, to "Auld Reekie", to settle down to student life for a time—first, in "diggs" at a private hotel; later, in Ramsay Lodge just behind the famous old castle and overlooking Princes Street Gardens.

One's first impression in that city of sombre stone buildings, black with the damp and soot of generations—is that of coldness, just as the rooms of Ramsay Lodge seem cold at first. But as, in time, the warmth from the many fireplaces dispels the cold, so before long the whole city radiates a warmth. Those stone buildings, built for eternity—their many spires pointing heavenward, and their roofs silhoutted against the sky-line; those many statues and monuments; that great memorial in the centre of the castle; Princes Street—its artistic shops on one side, and on the other side the beautiful gardens, green all winter; the churches, the university, the infirmary, the bridges, the Royal Mile, Arthur's Seat and the Pentland Hills in the distance—all these, in time, burn into one's very soul pleasant memories, never to be forgotten, of the warmth of old Edinburgh.

Visitors are often told that the people of Edinburgh are cold, whereas the people of Glasgow are more friendly and receive the stranger with open arms. Perhaps so. But it would be difficult to find anywhere, a race of people more kind and more anxious to welcome the overseas student into their homes and into their social life—once they have become acquainted with him. In fact, it is with difficulty, for fear of offending such gracious hospitality, that one must refuse many invitations to teas and to private dances, trips to castles, and such diversions in order to engage in pursuit of the knowledge one seeks.

Let us now observe the medical student in his pursuit of knowledge at Royal Infirmary. For some time, he is lost amid the maze of corridors and wards. Soon, however, he finds his way through them quite easily; and once oriented, he realizes that all medical and surgical instruction is well centralized. At the university, the student must make his plans for study follow the college terms which are divided according to English custom into spring, summer, autumn and winter periods, each with about nine weeks' study and four weeks' vacation. But at the Infirmary operations are always in full swing and during the vacation times the visitor is usually requested to come down from the gallery and view the operation from the floor.

It is only by working as a resident, however, that one can really appreciate the full value of that great Infirmary, both in its service to the public

(which service is rendered free of charge), and likewise in its service to the students from all over the world.

Here daily, in each ward, the surgeon, assistant surgeon, and clinical tutor make "rounds" with the resident house surgeon and give instructions to the students and clinical assistants. Later, in the operating theatre, (while the operations are in progress) they continue their instruction, lecturing always before full galleries.

On Waiting Day, which is one day in seven for each of the surgical wards, all emergency cases are admitted to one ward and the operating theater in that ward is open for 24 hours. There may be 10 to 30 cases admitted that day. All emergency cases must come in—crushing injuries from the mines, perforations of gastric or duodenal ulcer, cases of obscure abdominal pain—any case which can not safely be sent home.

In the S. O. P. D. (Surgical Out-Patient Department) which admits all cases to the Infirmary, there is a continuous flow of cases from early morning until late at night, or even until the following morning. Here three resident surgeons are kept busy repairing the wounds of those who can return home and deciding which cases require hospital treatment.

The Surgical Research Department of the University, under the direction of Professor Wilkie, is making many valuable contributions to the knowledge of surgical problems. An example of such research may be seen in the recent work done by Wilson on the treatment of burns. He is now working on problems connected with cardiac output. Another example is in the work of Stirling who is at present investigating fractures. Experimentally he has been able to analyze and reproduce a sclerosing fluid similar to the fluid formed in the haematoma between the ends of the bones. This fluid, when injected immediately after the fracture has been produced, eliminates the first ten days of the healing process. Ordinarily during these first ten days, the healing process consists largely of erosion of the bone ends. This fluid, however, causes immediate production of callous and correspondingly shortens convalescence. Still another example may be seen in the valuable research done by Adamson on the sympathetic and para sympathetic nervous system especially with relation to Hirschprung's Disease. I had the pleasure of working with him for some time in this investigation.

The University, of course, is primarily concerned with the teaching of its undergraduates. To the post-graduates, however, who are admitted to certain classes, it is evident that the under-graduate is exposed to and has the opportunity of learning quite advanced work.

After leaving Edinburgh, I visited various places on the Continent. I spent three months in Debrecen, Hungary, and three months in Vienna, Austria. Perhaps a few observations on life in these countries would be of interest.

Debrecen, located near the border of Roumania, is a city of over a hundred thousand people. On a fast train it is approximately an eight hours' trip from Vienna and a four hours' trip from Budapest. Enroute one first sees a few low hills; then, later, a flat prairie country with well cultivated farm land.

One of the four universities of Hungary is in Debrecen. Associated with this university are a large group of hospital buildings called clinics—which cover many acres of ground. These are on the edge of the city, connected with it by the main tram line, and border a beautiful forest. The clinics include:

surgical (Sebeszeti Klinika); gynaecological (Schuleszeti Klinika); obstetrical; medical; eye, ear, nose and throat; infectious disease, and other clinics.

The heating and cooking for all these clinics is done in a central building which is connected with all the others by under-ground tunnels.

Each clinic is in charge of a professor, who has an assistant termed a "dozent". The professors, dozents, and many of the staff speak excellent English.

In the Sebeszeti Klinika there are about twenty other doctors on the staff under the supervision of the professor and dozent. Several of these doctors are doing three years' post-graduate work in order to become surgeons.

One of the operating theaters in this Clinic is used for teaching purposes with seating accommodations for about 150 students. Inscribed around the walls of the room are the names and dates of many men, famous in the history of medicine. The names of Lister and Semelweiss occupy the places of honor above the two main doors.

Unfortunately the financial condition of the Clinic is not good. A former grant from the Rockefeller foundation has been withdrawn and a cottage annex had to be closed. Since the government is unable to supply the necessary funds, there is a possibility that the entire Clinic may have to close at any time.

It is interesting to note that because of lack of funds, the Clinic can not afford a sufficient supply of rubber gloves. Cotton gloves, therefore, are used at all operations (except for septic cases). To prevent infection it is thus a rule of the hospital that doctors must scrub up with soap and running water for twenty minutes before each operation. They then must soak their hands in three different antiseptic solutions. Usually the gloves are changed after the skin incision has been made. In addition, they may have to be changed once or twice during the operation. Apparently this method gives satisfactory results since the occurrence of post-operative sepsis is as low as in any hospital.

In order to help the financial condition of the clinics, foreign doctors upon payment of certain fees are permitted to become clinical assistants and to perform operations under supervision of the professor, or his assistants. Part of the fees so obtained goes to the professor, and the remainder to the clinic. If he wishes, the doctor may live at the clinic, where he may obtain a modern room with bath and have his meals in the dining room with the other doctors.

Among interesting cases, he sees many hydatid cysts especially of the liver. East of Budapest, there is very little goitre. Hernias of all kinds, however, are plentiful; malignancy takes its toll as elsewhere; and accidents, also, are fairly numerous. It is quite common for the doctors to see patients brought in with air hissing through stab wounds in the chest. Young girls are often such victims in lover's quarrels. Another condition he sees is that of complete castration. The attacker may anaesthetise his patient, let us call him, by a blow on the head. He then does a clean operation with one cut of the knife. These conditions of course, occur only among the lower classes who are quick-tempered and use their knives freely to settle old scores.

Throughout the country, however, law and order is well preserved. One can go anywhere day or night without fear of being molested.

An interesting spot near Debrecen is the Hortobagy, or great plain. Here millions of head of cattle graze, attended by cowboys mounted on horseback and wearing their robes and native dress. These cowboys look forward

quite eagerly to the annual carnival week when they display their ability as horsemen. At these times they put on remarkable exhibitions of skill.

Another outstanding event is the annual market week when peasants from miles around bring into the city the products of their years' labor. Just as at our Fairs, there are among these exhibits beautiful handwork, home-cooking, and produce of the farm. There are also the usual Faker's Row, merry-go-rounds, and sales' booths.

On the way from Debrecen to Vienna, the visitor passes again through Budapest, which is one of the most beautiful cities in Europe. The famous Danube flows through the city—Buda being on one side and Pest on the other. Buda is hilly while Pest is flat. From the hills in Buda can be seen the many bridges crossing the river; and on the opposite bank, the Houses of Parliament with their many spires.

Here as in the other cities of Hungary nearly every restaurant and hotel has music furnished by gypsies called Ziginars. They have rather darker skins than the typical Hungarians, many of whom are blond. The gypsies prefer to play their native folk songs which have a plaintive, minor note and are extremely popular. Often they sing to their own accompaniment and the leader with his violin comes down into the audience where he plays at the individual tables. At intervals they pass around a plate for collection. An equivalent of a one-cent tip is all that is expected though more is gratefully accepted. In addition to this gypsy entertainment, a few of the larger hotels provide cabarets of the usual type including American jazz.

When the traveller reaches Vienna, however, he finds no gypsies and little music. As far as music is concerned, the only exception he discovers is in Vienna's famous old wine cellars. One of the most celebrated of these is in the basement of the Town Hall (Rathaus) where Austrian folk songs, differing entirely from Hungarian music, are played. Also, in a few of the coffee houses, restaurants, and wine shops throughout the country two or three musicians may be found.

Throughout Austria the coffee houses (Kafe Haus) are a unique institution. These are large places, many of them tastefully furnished in a manner similar to the lounging rooms in modern hotels. The customer sits down and usually orders coffee. With the coffee the waiter brings two glasses of water and newspapers of all kinds. One may obtain a Paris edition of the New York *Times*, The *Daily Mail* from London, or various publications from Berlin and elsewhere. With surprisingly regularity, the waiter brings two glasses of fresh water every hour and removes the other two glasses whether used or not as long as the customer remains in the shop. One has the privilege of remaining there as long as he wishes. He is only charged for the coffee which usually costs an Austrian shilling (about 20 cents). In addition he is expected to pay a 10% tip to the waiter and a 10-groshen tip (one cent) to the water-carrier.

These coffee houses form a center of Viennese family life. The Viennese entertain friends there, play cards if they wish, or carry on business transactions. Often whole families remain there all day. In this way they save fuel in winter. Since the coffee houses are not restaurants, however, only light lunches are provided, such as: boiled or fried eggs, sandwiches, and cakes. It is said that there are sufficient coffee houses in Vienna to house the entire population at one time.

In summer all coffee houses and restaurants have places to eat outside, either in a court yard or in an awning-covered part of the sidewalk.

Vienna is also noted for its many swimming pools and bathing resorts. All along the Danube are numerous beaches and amusement parks which are crowded on warm days. The river is dotted far and wide with canoes, gondolas, and sail-boats. In addition to the swimming facilities along the river, swimming pools may be found in every suburb of the city. These are surrounded by grounds where the people remain all day, sun bathing and picnicing.

To the visiting doctor, however, Vienna as a celebrated medical centre is of most interest. Unless he has made private arrangements to study at one or two hospitals, he is well advised to join the American Medical Association of Vienna. This association has no connection with the American Medical Association, but is an organization founded and composed of English-speaking doctors who have visited Vienna. Its headquarters are at 9 Alserstrasse, conveniently located opposite the General Hospital (The Allegemeines Krankenhaus). These consist of club rooms, and offices where various kinds of helpful information may be secured. For example, lists of operations at the different hospitals are posted daily. In addition to this service, the Association has an arrangement with the University of Vienna and the numerous teaching hospitals whereby classes are held in English. These consist of lectures, operative demonstrations, and clinics. The fee charged is usually $5.00 per hour of instruction. This fee is divided among the doctors signing up for the class. If one doctor wishes private instruction, as in cadaver surgery, he pays the entire fee. If many doctors take a course, as in Pathology, the fee to each doctor is thereby reduced to a minimum. Among the lecturers are included such well known men as: Von Eiselsberg, a pupil of Billroth's; Finsterer, Bohler, Schiller, and Frankel.

After the completion of 300 hours of instruction over a period of four months, the University of Vienna will grant a certificate, (Zeugnis), to the doctor applying for it. No examinations are necessary to obtain this diploma.

It is a rule of the Viennese hospitals that all patients who die there must have post-mortem examinations. In these cases, therefore, the diagnoses and results of treatment are carefully checked. Thus obscure cases are clarified. It is evident also that much material is available for cadaver surgery.

Twice weekly in the Allegemeines Krankenhaus, Chiari, the Pathologist, lectures on interesting cases which he has collected from the post-mortem room. The diseased tissues from each case have been removed and placed on a large platter. First he gives a brief summary of the history of the case including the diagnosis and treatment. Then from the specimens before him, he demonstrates the pathology of the diseased organs.

If a doctor wishes to study any particular subject, there is ample opportunity to obtain instruction, to see clinical cases, and to carry out treatment. He is not allowed to perform complicated surgical operations within the city limits. He is, however, permitted to do the usual operative work of the ear, nose and throat hospital.

If he wishes, for example, to become proficient in cystoscopy, he can procure abundant material and instruction. If he wishes, on the other hand, to learn Bohler's method of treating fractures, he can obtain instruction from either of Bohler's two assistants and visit the hospital daily watching the progress of the cases.

Bohler's fracture clinic is one of the most interesting in Vienna. For treating the different fractures, he has his own methods, many of which are not accepted in the British schools. He does, however, obtain excellent results. For example, he applies plaster of Paris directly to the skin without shaving off the hair, which helps to hold the plaster on more firmly. He molds the plaster closely to the limb. In fractures of the leg he protects the common peroneal nerve by placing a strip of felt an inch wide around the leg at the point where the nerve crosses the fibula. Bohler uses local anaesthetics freely, injecting 2% novocain into the haematoma. In other cases, he uses brachial plexus or spinal anaesthesia.

When treating compound fractures or wounds of any kind he freely excises the margin of the wounds, entirely removing all the damaged tissue, even if extensive skin-grafting is required.

Before leaving Vienna no visitor can overlook the political situation there with its far-reaching consequences.

By the terms of the Treaty of Versailles, Austria was reduced to about one-quarter of its former size. Vienna, its capital, has now no outlet for its manufactured goods, and has to pay dearly for its food supplies many of which must come from outside its borders. This situation has continued to keep the country in a state of poverty, and has prevented a come-back from the financial crisis following the war.

In spite of loans from foreign powers, the country is now in a desperate state, with large numbers of the population out of work, little money in circulation, and the government unable to give sufficient aid to the destitute. It is pathetic to see, on almost every street, young able-bodied men and women with babies in their arms and little tots at their feet, begging for a few cents to buy bread.

With so much poverty, it is only natural that the government in power should be blamed and it is equally true that people in such a state would prefer death by fighting to starvation.

On the other hand, the country is too poor to withstand a prolonged war. Neither is it able to obtain sufficient credit for one.

At heart the Austrians are a peace-loving race. They are extremely kind to the visitor—and do all in their power to help him enjoy his stay in their country. On the whole the general public is stable. Revolutionary feelings affect only a minority. Business, such as it is, goes on daily in spite of almost overwhelming obstacles.

Historical Section

FORTY-FIVE YEARS OF PRACTICE

J. J. CAMERON, M.D.,
Antigonish.

FORTY-FIVE years ago when I started to practise in Antigonish there was no hospital, no trained nurse, no telephone and no electric lights. The streets were not paved and the roads throughout the county were narrow, rough and hazardous in places. The common diseases then, as now, were pneumonia, inflammation of the bowels, consumption, typhoid fever, diphtheria and cancer. Of course, the same diseases are with us still, but most of them very much attenuated by the lapse of time and the progress of knowledge.

I well remember being called one bitterly cold night to see a case of pneumonia twelve miles from town. When I arrived after passing over three miles of woodroad I found the man suffering the most agonizing pain I think I have ever seen. After a second hypodermic of morphia and ten grains of quinine with Dover's powder (and by the way large doses of quinine with Dover's powder was the sheet anchor then, and I doubt if it has been superceded by anything better since), I got the pain under control, put on a large linseed poultice and whisky *ad lib.* I remained with him for two hours and left him comfortable. Just after getting home and into bed at 3 a.m. there was a ring at the telephone: "The pain is as bad ever, they want you to come right away." Over the dreary road with my tired and faithful horse I slid again inwardly damning the man who invented the telephone.

Inflammation of the bowels was another painful and dreaded disease in those days. Nothing better than turpentine stupes or linseed meal poultice, enemas of soap and water and morphia to, kill the pain, was known. I never saw an appendectomy in Bellevue Hospital while at college. I remember one day the Professor of Surgery on entering the lecture room made the announcement that Dr. Alexander had cut down on a case of typhlitis and found a large quantity of pus. About this time McBurney of Boston and Morris of New York were broadcasting through the Medical Journal successful cases month after month. Devouring each successive issue I got McBurney's point indelibly stamped. About this time, my first year in practice, I was called to see a son of Dr. DeLaney, Magdalen Islands, then a student at the college and found him suffering from a hard belly with considerable pain. I thought it was appendicitis and decided to operate with the assistance of my druggist and a Sister who was not trained, (I felt if I asked one of the other doctors to help he would turn me down and take no part in it), we prepared for operation. I was fearful lest I should miss McBurney's point and thus jeopardise the life of my patient. However, I cut down (without gloves, etc.) and came into a pus cavity. Fingering around I removed a concretion about the size of a bean and felt the appendix adherent to the sac wall and

something told me I had better leave it alone. This turned out to be good surgery, although I did not know it at the time. I thought after the operation that because I did not remove the appendix (for at the time removal was the sole objective), my patient was going to die as the operation was not properly completed. I put in a large iodoform drain or packing, closed the wound, cleaned the field with bichloride solution, dressed and bandaged. For six weeks I dressed the wound daily, rather exacting for one who was often many miles in the country. He made a good recovery. This, then, in 1899, was the first operation for appendicitis in Antigonish. I wonder who performed the first in the province? Many a boat-load of appendicitis cases has passed under the bridge since then.

Now we come to "consumption" which at this time was thought to be entirely hereditary and in that belief no attention was paid to the dictum that "the person infected is the source of infection" in this as in every other infectious disease, no attention to isolation, sputum, etc., hence numbers of families fell to its ravages. At this time too it was thought that typhoid fever was contagious and no one would risk his life by entering a house where a person was ill of typhoid. No attention was paid to water supply or milk supply that contained the causative agency primarily made infectious by some sick case or "carrier." Diphtheria, too, continued to exact a terrible toll. Antitoxin was not so well understood and consequently not so freely used then as now. Cancer in my early practice was of rare occurrence in marked contrast to its prevalence today.

When I started practice in Antigonish there were three Doctors in the field, to-day there are eight. Let me recite a case in the practice of the late Dr. Alexander McIntosh one of the practitioners here when I started (the other two were Drs. W. H. McDonald (Dr. Bill) and J. C. McKinnon). Making a call one day I was met at the door by a man on crutches who had lost a leg. I asked him how he came to lose his leg and his reply was that he had had a "running sore" of the leg for years so he sent for Dr. McIntosh who took it off. I then asked him where he belonged and he told me he was a fisherman from the southern shore of Guysboro County. "And who assisted the Doctor with the operation?" "Oh", he replied, "a couple of the fishermen." "And who attended you after the operation?" "Oh," he replied, "just the fellows who were with the Doctor." ""How long since the operation?" "Oh, about ten years ago." Is there a man in Canada today courageous enough to undertake amputation of the leg at the hip-joint single-handed, save for the assistance of two fishermen who probably never saw an operation? The case was left in the hands of the fishermen for after treatment for the Doctor never saw him again, till some months later he walked into his his office (with the aid of crutches, of course). Dr. McIntosh practised in Antigonish for a good many years after I started. He was a man of indomitable courage, fearless as a lion, lofty ideals—a gentleman.

Now let me conclude with a personal experience of which I could recite many. One night many years ago a messenger on horseback came twenty miles to town looking for a Doctor for an urgent case. To make a twenty mile trip in those days was about the equivalent of a trip from here to Halifax today. I got ready as expeditiously as possible, lit the lamps on my buggy and started. The messenger left his tired horse in town and accompanied me. The night was very dark and before we had gone very far the lights went out. About ten miles out a detour in the road was being made and a

large gravel pit or hole was left by the side of the road. I followed the old road for a few rods when my companion informed me the road had been changed. I started to turn around whereupon the buggy upset—four wheels in the air and the horse on his back. I managed to get clear in the somersault but the messenger's head was caught between the two ribs of the top. I immediately made for the horse's head to keep him down and prevent him struggling while "the pig in the poke" was yelling for help. What was I to do? Well, after a time he succeeded in extricating himself; we unharnessed the horse, righted the buggy after which he went about a quarter of a mile to the nearest house to get some rope and a lantern, if possible. Well, to make a long story short, we reached our destination two hours behind time and learned that "everything is over".

Says Canada Lags in Public Health.

Montreal, Nov. (CP.): The North American continent is 20 years behind Great Britain and leading European countries in looking after the health of the people, stated Dr. Jonathan Meakins, physician-in-chief of the Royal Victoria Hospital, addressing a local women's club. Holding that the health of the people should be the responsibility of the State, Dr. Meakins advocated a scheme of social insurance for Canada. Social legislation must be federal, he maintained, if it is to reach all the people.

Pointing to maternal mortality as a sensitive index to social welfare, the doctor said that every day in Canada three or four women die in childbirth, due to malnutrition and unsanitary conditions. It is the right of working men and women, continued Dr. Meakins, to demand insurance which is within their means. To provide this the individual worker, the employer and the government should all contribute. Such insurance would not only give protection in cases of illness or temporary employment, but also when the worker is replaced by a younger man or woman, Dr. Meakins said.
Truro News, Nov. 22.

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Official Organ of The Medical Society of Nova Scotia.

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Christmas

THE coming of Christmas brings with it rejoicing and happiness. All that is most kindly and most genial, most tender in human nature revives at Christmas time. The world in the midst of its modern civilization goes back for a while at Christmas to the simple joys of childhood; the world in honor of the Babe of Bethlehem becomes childlike in the midst of innocent gayety. Old customs are remembered, old friends are greeted—the Christmas wreaths and the Christmas greetings spread a bright smile across the weary world. Again Christmas awakens in the world that love which prompts acts of kindness and charity. It is a time of charity for the poor, of compassion for the afflicted, of remembrance for the forgotten. It is a time when men and women, who think little of others all during the rest of the year, are filled with active charity—they spend generously on others, they forget themselves.

With these sentiments pervading our minds during this Christmas season may we not hope to spread some measure of joy and rejoicing to many. May we not hope to alleviate in some way the suffering and privation that is the lot of so many due to economic conditions or to circumstances over which they have no control. Our charity and our kindness will not go unrewarded. We will have caught the true spirit of Christmas, the spirit of the Babe of Bethlehem who came on earth to give.

To all the readers of the BULLETIN and especially to the members of the Nova Scotia Medical Society, I extend the season's greatings.

God be with our old friends
And God be with our new—
God bless with Christmas happiness
Your family, friends and you.

D. MACN.

CASE REPORTS

APPENDICITIS.

I hesitate to tender to the readers of the BULLETIN, in the way of case reports, anything on the subject of appendicitis.

Everybody is writing and talking this disease, but when one has had experience of its various types for a number of years, is it any wonder that we take it up from time to time from our standpoint if from no other motive, as there are so many varieties and conditions of things in that region of McBurney's Point which interest us, and I might say surprise us, when we have unveiled the secrecies of the abdominal cavity.

I do not intend to go into the matter of appendicitis as to either its diagnosis, its prognosis or even its treatment, but merely to speak of some peculiarities of the condition which sometimes occurs in families, more especially frequency.

This condition has occurred to me lately, in that four members of a family have been attacked with abdominal pain during the past six weeks and each have been operated upon, and each case has presented somewhat of a different pathology. The family in question have never suffered from any diseases except possibly some of the minor ones of childhood. I do not think from what I have heard, that the parents had much use for doctors or hospitals, and in all probability this erroneous belief led to the first case becoming fatal. In this case the matter of home treatment was highly stressed unfortunately, as a case of a minor ailment, nothing more than a pain in the stomach or abdomen, which to their uneducated minds did not even savour of anything serious. I only hope that as time goes on that the public will be able to realize that a pain in the abdomen is guilty until it is proved innocent.

The first occurring in the family was Carl, a boy aged fourteen, who was taken ill with pain and vomiting on a Wednesday night. This carried on for two days, and only at the instance of a neighbour nurse were the parents convinced that the case might be a serious one and that a doctor should be summoned. A colleague of mine was called and pronounced the case as one of appendicitis, and at this late date was removed to the hospital and operated upon by another colleague. This case provided all the symptoms necessary to pronounce it a well developed attack, pain, vomiting, rigidity, rapid pulse and temperature of 102°F.

It was found that he had a ruptured appendix, with free pus in the abdominal cavity. He died promptly in twenty-four hours, and here I might add, how unfair it is to the surgeon into whose hands such cases fall; he has done his best, but what chance has he for a successful outcome?

The next case was a brother aged nineteen. I was called to see him on the 21st of November. He was also complaining of pain in the abdomen, and on examination I found that tenderness was present at McBurney's Point. Diagnosis—appendicitis. I naturally hesitated at immediate operation, the family having suffered so recently in the loss of Carl, and as the case was one of those which one feels that possibly some local treatment might of avail, I procrastinated until next morning, in the meantime while using cold

applications over the seat of trouble; but I was not long in deciding the next morning when I found matters had not improved and there was a slight tendency to rigidity. Removal to hospital was next in order. Operation.

Here was found an acutely swollen appendix which was removed and abdomen closed without drainage. The pathlogy in this case was an appendix filled with pus. The boy made an uneventful recovery.

The next case was Muriel, a sister, aged eighteen. I saw her on the 23rd of November, although she was suffering abdominal pain and had the same tenderness over McBurney's Point still she did not impress me with any great seriousness, and as she was about to menstruate, I felt safe in leaving her, watching her in the meantime until she had finished, so as soon as Muriel was ready she was removed to the hospital and operated upon, and here we found a totally different condition of things.

The appendix was filled with foecaliths and more or less ecchymolic patches throughout the mucous membrane. Muriel recovered and I thought that the family had had their fill of appendicitis, and I am sure that I was not looking for any more just then, when on the 4th of December I was called to see Sarah a girl of twelve.

I found her to be suffering with abdominal pain which came on suddenly that day, with a temperature of 99°F. and pulse of 108. There was decided tenderness over McBurney's Point, not severe, but enough disturbance to make me cautious. I did not remove her to the hospital at once, but had her watched by a neighbour nurse. That evening she reported that her temperature had gone to 100°F., Pulse 116, so had her brought up to hospital that evening, and operated next morning. Here was a totally different condition again. The appendix was so wrapped up and tied down by adhesions that it was not visible and it was necessary to divide the adhesions for the whole length of the organ before it could be sufficiently freed for removal. The organ itself was swollen and bulbous at the extremity. The mucuous membrane was swollen, no pus, but some foecal matter at tip.

All three upon which I have operated have progressed favourably, two of them still in hospital.

The only reason I have for presenting these cases is the rather unique feature of the development of four cases in a family of eleven children in such a short time, all of whom have been exceptionally healthy throughout their lifetime.

In such cases the laity naturally ask the question "Is appendicitis contagious?" Our answer is "No," and still one wonders sometimes at such instances as these. Sarah's case puzzles me. A perfectly healthy child, only ill one and one-half days with the disease and to find the appendix so firmly bound down with adhesions for its full length. Was this produced at the time, or was it some condition which had been coming on gradually.

There is one thing which I am sorry was not done in any of the cases, viz., a blood count, but it was neglected. It would have been interesting to see what variation took place in the various cases, especially in those who developing pus in contra distinction to those two in which it was not present.

G. W. T. FARISH, Yarmouth, N. S.

Acute Glaucoma.

Mrs. D. C. Age 63.

I first saw this patient in July, 1928. At that time she stated that the sight of the left eye began failing her four years ago and had gradually gone on to blindness. The eye showed a semi-dilated pupil with the reflexes gone. The disc was very deeply cupped. The tension was slightly up. A diagnosis of Glaucoma was made and the patient was told of the possibility of trouble in the good eye and she was asked to report regularly every two months, and if she noticed anything unusual in the right eye to report immediately. She did this faithfully for a year, but then discontinued her visits. I saw her again in November, 1931 at St. Martha's Hospital. She had contracted a bad cold and one of the staff visiting her at her home in a remote section of Guysboro county, found her with a very sore right eye and recognized the seriousness of her condition and brought her to the hospital.

She at this time stated that for the past two months she had been having attacks of severe pain in the good eye with diminution of vision. On examination the eye was beefy red, the lids edematous and the cornea steamy. Tension two plus, the eye ball was very tender. The fundus could not be seen. Vision was limited to finger counting and the visual field narrowed to almost the fixation point. The patient was suffering great pain. A diagnoss of Acute Glaucoma was made and the patient advised that immediate operation was necessary. This was done under general anaesthesia. A corneo-scleral trephine being the operation done. The results were dramatic. The pain ceased and she was perfectly comfortable after the operation. Daily her vision improved and the field gradually expanded until it was quite normal again. When the media cleared sufficient to see the fundus, the disc was found only slightly cupped. She left the hospital in two weeks and yearly check ups found her getting along nicely. The point is reviewing this case is the urgency of recognizing serious disorders of the eye. Had not this been done by her family physician this patient would certainly have become totally blind.

R. F. MacDonald, M.D.,
Antigonish, N. S.

Hemangioma.

E. D. Age 3 months.

This patient a girl baby three months old was admitted to St. Martha's Hospital, October 1, 1932 with a large Hemangioma of the lower lip, involving the left half and extending from the mucocutaneous border to almost the gingo-labial sulcus. The lip was about three times the normal size and of a violet red color. The growth was present at birth and the mother stated that it had enlarged quite rapidly in the last six weeks. It now interferes somewhat with nursing. The patient was otherwise quite normal. We were frankly rather puzzled as to what therapeutic measure to adopt here, but finally decided upon treatment with the high frequency current of a strength of five hundred milliamperes the needle being of medium size. In all, the growth was treated six times at four day intervals. At no time was the baby apparently inconvenienced, nursing well and in no pain. There was no bleeding from the growth. On discharge the lip was almost normal in size,

but not entirely healed. In a letter from the baby's mother later she stated that the lip was quite normal with no scarring.

In growths of this kind I feel that in the high frequency current we have a very valuable therapeutic agent.

R. F. MACDONALD, M.D.,
Antigonish, N. S.

Septic Meningitis Following Chronic Otitis Media.

Mr. J. MacD. Aged 39.

Admitted in coma Sept. 9 ,1934.

Had had a chronic otitis media for past twenty years. From history obtained from family it was found that he had had a discharge from left ear for past few years with only an occasional interval in which the discharge ceased. Has otherwise been well and active. Had rarely been bothered with pain in ear.

Three days before admission complained of pain in left ear and increased discharge. Used the usual irrigations of boracic solution to which he had become accustomed, but rapidly became worse and when seen was in a semi-comatose condition and removed to hospital.

On examination—Thin discharge from left ear. No apparent mastoid involvement. Neck retraction and Kernig's sign positive. Temperature 103 and pulse 65. On admission to hospital was practically comatose. Lumbar puncture was done. Fluid under slightly increased pressure and turbid. Cell count was increased and polymorphs predominated. No organisms could be identified and culture of C. S. fluid gave no information. Colloidal gold curve was atypically meningitic. Blood culture was not done. Other systems were negative. Case was regarded as septic rather than meningococcal, although no organisms were identified from the C. S. fluid. Patient died shortly after admission to hospital.

J. J. CARROLL, M.D.,
Antigonish, N. S.

Acute Gall Bladder from Torsion of Cystic Duct.

Mrs. G. T. Aged 55. Admitted evening 20/11/33.

Early morning at breakfast Nov. 19/33, was seized with a very severe pain in mid-epigastrium and became weak. Vomited food shortly afterwards which relieved pain. Pain became localized in right side of abdomen, just lateral to umbilicus, and persisted until admission to hospital. Did not vomit again. Pain on admission was not very severe. Bowels had moved since onset of pain.

Had previously been in good health, never having had any severe illness except a chronic arthritis of left hip and knee. Had never been troubled with indigestion and never had any acute abdominal pain. Had never been jaundiced. Had not had Typhoid Fever.

Family history was negative.

On examination. Patient was the lean active type, and was not particularly distressed with the pain. On abdominal examination, acute tenderness over right rectus from costal margin to pubes. Rigidity was very marked over whole right rectus and completely absent on left side. A mass about the

size of a small orange was palpable lateral to umbilicus which was very painful on palpation. There was no jaundice. Urinalysis was normal and no bile was present. Leucocyte Count was 14,500. Temperature on admission was 100.2 and pulse was 80. Blood pressure was 120-80. Case was diagnosed as an acute abdomen, as differential diagnosis between an abscessed appendix and empyema of Gall Bladder was extremely difficult due to exquisite pain and rigidity on palpation of the mass.

Abdomen was opened by a right split rectus incision. Appendix found to be only slightly congested and removed. An elongated distended Gall Bladder was found with an extremely long cystic duct. There was a complete volvulus of cystic duct. The Gall Bladder was distended and filled with blood stained bile and showed early gangrenous changes.

Cholecystectomy was done and patient made an uneventful recovery.

Nelson's Living Surgery states that there are only 21 recorded cases of volvulus of Gall Bladder.

J. J. CARROLL, M.D.,
Antigonish, N. S.

The Infected Finger.

Male. Age 16 yrs.

Presented himself complaining of pain and swelling in left index finger. About one week previous had injured finger while at work, striking terminal portion with hammer, following which finger became painful and swollen. Applied a poultice, which caused some pus discharge. However, finger continued to swell and pain increased.

Examination showed left index finger much swollen and tender, terminal portion, palmar aspect showed sloughing of superficial tissues with seropurulent discharge, pain on pressure, flexion and extension. Hot compresses, rest, etc. had little effect on condition and it was thought that necrosis of terminal phalan had occurred. However, the result of a routine Wasserman was now received, which was positive and treatment directed to this condition cleared up "The Infected Finger."

F. J. MACLEOD, M.D.,
Inverness, N. S.

Congenital Measles.

Female. Age 38. 7 para.

This patient was being treated for toxaemia of pregnancy which was progressing favorably and expected to be confined in about two weeks when she developed an attack of measles, (morbilli).

On the fourth day of the attack labor began and a female child was born weighing five pounds, followed by a twin male weighing eight pounds. On examination of female child it had a typical eruption of measles which persisted for three days, then cleared up. Ten days after birth the male child had an attack of measles with cough, coryza and rash. This case is presented as I am told that measles are rarely present at birth and also rare in infants under one month.

F. J. MACLEOD, M.D.,
Inverness, N. S.

Intussusception.

Male. Age 10 years.

This boy when seen complained of rhythmic collicky pains in abdomen. Pain occurred about every five minutes and caused some vomiting but was not of great severity.

History. The bowels had moved soon after breakfast. The patient was in his usual health, and while playing jumped off a table, following which he felt a sharp pain in abdomen and weakness which passed off and did not recur until about one hour after when patient was seen at eleven p.m. At this time patient felt the pain return in the abdomen and a desire to go to stool. However, nothing was passed by bowel, the bowels having moved about two hours previous. Examination was negative except for some tenderness on pressure over left side of abdomen, with some rigidity and slight increase in pulse rate. There was no distension of the abdomen, hernial openings were clear and no history of previous operations on abdomen. During the next four hours pain continued being of the same rhythmic character with slight abdominal distension. An enema returned clear except for slight blood tinge. It was now decided to explore the abdomen and an intussusception of transverse colon into descending colon was found which was reduced without any difficulty. This case is presented because of definite onset when the boy jumped off the table. The patient made a good recovery being discharged from hospital fourteen days later. It might be mentioned there was a considerable degree of ptosis of transverse colon.

F. J. MacLeod, M.D.,
Inverness, N. S.

Society Meetings

REPORT OF THE TOUR OF THE PRESIDENT OF THE CANADIAN MEDICAL ASSOCIATION THROUGHOUT CANADA.

AT the Annual Meeting of the Manitoba Medical Association held in Winnipeg on September 10, 11 and 12, a suggestion was made that medical organization in Canada might view with approval a plan which has been so successful for a century in the British Medical Association whereby the integral parts of the parent Association are known as Branches and Divisions, even going so far afield as Australia and South Africa where the Associations are known respectively as the British Medical Association (Australasian Branch) and the British Medical Association (South African Branch). The day following the provincial meeting, a meeting was held of the outgoing and incoming Executive Committees. At this meeting, a resolution was presented and adopted to the effect that the group present would favor the Manitoba Medical Association changing its name to "The Canadian Medical Association, (Manitoba Branch)," if the other provincial associations in Canada adopted a like course. Our President, Dr. J. S. McEachern, and the General Secretary, who were then commencing a tour of Canada, undertook to carry this message to the other provinces. We now report upon the reception which the suggestion received.

On September 15th, we attended a meeting in Calgary with representatives of the Executive Committee of the Alberta Medical Association and members of Council of the College of Physicians and Surgeons of Alberta. Here a resolution was adopted unanimously approving of the principle of the Canadian Medical Association, (Alberta Branch). (At a subsequent meeting in Red Deer, Alberta, on October 4th, with a larger number present from Council and the Executive Committee, the resolution was reaffirmed).

Proceeding to British Columbia to the annual meeting of the British Columbia Medical Association held in Kamloops on September 17th and 18th, a resolution was passed approving of medical organization in British Columbia being known as the Canadian Medical Association, (British Columbia Branch). During the latter part of that week a meeting of the Vancouver Medical Association and a meeting of the Victoria Medical Society enthusiastically approved the same resolution.

Proceeding to Saskatchewan, we met the Executive Committee of the Saskatchewan Medical Association in Regina on September 25th. At this meeting, a resolution was unanimously adopted, favouring the Saskatchewan Medical Association changing its name to The Canadian Medical Association, (Saskatchewan Branch). That evening, the Regina and District Medical Society heartily concurred in the suggestion.

On Friday, October 26th, in Montreal at the Cercle Universitaire, we met the Executive Committee of the Province of Quebec Medical Association. While no formal resolution was passed, the members of the Committee present appeared to be heartily in accord with the suggestion that the Provincial Association of the Province of Quebec should be known as the Canadian Medical Association, (Quebec Branch). That evening, at a meeting of the

Montreal Medico-Chirurgical Society, while no official resolution was passed, evidence appeared to be abundantly present in support of the proposal. The following week, resolutions of approval were passed by the Ottawa Medico-Chirurgical Society and the Medical Society of Sherbrooke, Quebec. In Quebec City, due to the fact that we were there on a religious holiday, it was only possible to get together a small group; and, while they did not feel qualified to pass any formal resolution, every man present expressed his approval of the proposal.

A section of the medical profession of New Brunswick was met in Saint John on Friday, November 2nd, when there was a splendid attendance. Here, a resolution was adopted instructing the Provincial Association, through its Executive Committee, to carefuly study the proposal. Several members, speaking to the resolution, heartily endorsed the proposal, while three others who spoke expressed the opinion that it would require very careful consideration having regard to the change of name which might necessitate going to the Government for permission to do so, and the fact that the name, "New Bunswick Medical Society" is dear to the hearts of their members and there might be some reluctance to giving it up.

On Saturday, November 3rd, at a largely attended meeting in Moncton, the proposal to call the Association Canadian Medical Association, (New Brunswick Branch), was received with unanimous approval.

On Monday, November 5th, at a meeting attended by close upon one hundred in the City of Halifax, it may be said that the proposal was discussed at great length by a number of men. In every single instance, heartiest approval was expressed for national unity and consciousness; and, although the Medical Society of Nova Scotis is more than eighty years old, the group unanimously carried the resolution favouring the adoption in Nova Scotia of the name, "Canadian Medical Association, (Nova Scotia Branch)."

Proceeding on November 6th, to Charlottetown, we met at dinner the Council of the College of Physicians and Surgeons and the Executive of the Prince Edward Island Medical Association. At this meeting a resolution was moved by the Prime Minister of the Province, the Honourable Dr. MacMillan, expressing complete accord and approval, and hoping that the profession across Canada would recognize the opportunity and the obligation of adopting a plan which would make us all members of a great national organization. A resolution of approval was passed unanimously, suggesting that in the Island, the name be changed to Canadian Medical Association, (Prince Edward Island Branch).

On Tuesday, November 13th, we met the Board of Directors of the Ontario Medical Association. At this meeting, the following resolution was unanimously passed:—

> "*That, whereas* Dr. J. S. McEachern, President of the Canadian Medical Association has placed before the Board of Directors of the Ontario Medical Association, a proposal that the various Provincial Medical Associations become branches of the Canadian Medical Association; and whereas the advantages of the proposal to the profession at large have been set forth, therefore, be it resolved that this Board of Directors of the Ontario Medical Association approve of the principle submitted, with a view to submitting it to Council of the Ontario Medical Association for their consideration and action.
> *Further, be it resolved* that the Executive Committee of the Canadian Medical Association be requested to submit a well studied plan by which the desired co-operation might be brought into effect."

Throughout the tour, we met more than one thousand medical practitioners. In this report, we have recorded bare facts, but the report would be incomplete if we failed to make reference to the countless conversations we both had with many of our colleagues, when, over and over and over again, it was demonstrated to us that at least a cross section of the profession whom we met were in unity with regard to the advisability and advantages of complete federation of the medical profession in Canada.

It now remains for the Executive Committee of the Canadian Medical Association to work out, through its appropriate committees, a plan of procedure which will be submitted to each of the nine Provincial Medical Associations. Already, the Committee on Revision of By-Laws of the C. M. A. has this matter under advisement, and, when its suggestions have been dealt with by the Executive Committee of the Association, they will be ready for submission to the provinces.

For the information of all the profession, it should here be emphasized that, if and when the plan is adopted nationally, it will not in any way interfere with provincial autonomy, nor will it permit of any outside interference in provincial matters. It should be possible to have for each province a basic constitution to which may be added By-Laws and procedure particularly applicable to that province. The plan in its final form must be acceptable to the provinces or, of course, it will not be adopted. We should, surely, with composite thinking and acting, be able to develop plans which will implement what appears to be a more or less unanimously accepted desire on the part of the medical profession from Coast to Coast. If we sympathetically bend our efforts towards a fulfillment of an ideal, it can be worked out. This is our ambition and our goal.

T. C. ROUTLEY, M. D.

Cape Breton Medical Society.

The annual banquet of the Cape Breton Medical Society was held at the Isle Royale Hotel, Sydney, on November 8th. The members of the Society listened to an interesting address by Dr. H. R. Corbett, radiologist at the Nova Scotia Sanatorium, Kentville, on "Correlation of Clinical X-ray Findings in Diagnosis". Dr. Corbett's concise treatment of the subject elicited keen appreciation by the members at the conclusion of his address. Considerable time was spent discussing ways and means of obtaining a consulting radiologist for the hospitals of Cape Breton. Doctors J. J. Roy and M. G. Tompkins were appointed a committee to interview Mr. L. D. Currie of the Provincial Hospital Association with a view to interesting its local branch in this matter. Dr. Daniel MacDonald of North Sydney presided.

Western Counties Medical Society.

One of the largest meetings in the history of the Western Nova Scotia Medical Association convened Tuesday evening November 27th, at the Grand Hotel, where a Medical Dinner was held. Following the dinner, Dr. H. K. MacDonald, Professor of Surgery at Dalhousie University and Senior Surgeon of the Victoria General Hospital, and Dr. H. G. Grant, Dean of the Dalhousie Medical Faculty, guests of honor at the dinner, addressed the Association.

Dr. L. M. Morton, President, presided and Dr. Morton and Dr. G. W. T. Farish rendered several vocal numbers in a musical programme during the dinner.

Dr. H. K. MacDonald took as his subject Surgical Operations in relation to Pulmonary Tuberculosis, illustrating his lecture with X-ray Plates. He reviewed in detail the methods, complications and results following major surgical operations on the chest as a terminal measure in the treatment of advanced pulmonary tuberculosis. His lecture was most beneficial and enjoyable to the medical men.

Dr. Grant spoke of Medical Education in general and in particular in relation to Dalhousie University. He pointed out that in the United States over 50% of the applications for registration in Medicine were rejected, some 5,000 out of 10,000 applications, this action being necessary because of restricted facilities. At Dalhousie, said Dr. Grant, great care is exercised in the selection of undergraduates applying for and securing entrance in the Faculty of Medicine. He referred also to new methods used in teaching the study of medicine and illustrated the correlation between the didactic and clinical branches.

Among those present at the session were Dr. C. Fuller, Yarmouth; Dr. G. W. T. Farish, Yarmouth; Dr. S. W. Williamson, Yarmouth; Dr. W. S. Phinney, Yarmouth; Dr. P. L. Belliveau, Meteghan; Dr. C. F. Dorien, Little Brook; Dr. H. J. Pothier, Weymouth; Dr. Z. Hawkins, South Ohio; Dr. R. L. Blackadar, Port Maitland; Dr. W. W. O'Brien, Wedgeport; Dr. R. Caldwell, Yarmouth; Dr. J. E. LeBlanc and Dr. C. J. Fox, West Pubnico; Dr. T. A. Lebbetter, Yarmouth; Dr. C. Webster, Yarmouth; Dr. A. R. Campbell, Yarmouth, Dr. A. B. Campbell, Bear River; Dr. L. J. Lovitt, Bear River; and Dr. H. H. Banks, Barrington Passage.

Colchester East Hants Medical Society.

On Tuesday evening, November 13th, there was a meeting of the Colchester East Hants Medical Society in the drawing-room of the Nurse's Home of the Colchester County Hospital. There was a good attendance of medical men from town and county who appreciated very much the professional section of the programme consisting of the following papers.

Coronary Thrombosis and Cardiac Ischaemia—Dr. H. V. Kent.

Hodgkin's Disease—Dr. F. D. Charman.

Diabetes Mellitus—Dr. D. S. McCurdy.

Following these papers there was a general discussion. A hearty vote of thanks was passed to the Superintendent, Miss Gilgour, and her staff of helpers for the privilege of meeting in their very pleasant drawing-room. Among the members present were the following: Doctors Connor, Maitland; President Patton, McCurdy, Dunbar, J. B. Dickie, McDonald, Kent, Reid, Truro; Johnson, Great Village; McInnis, Shubenacadie and S. L. Walker, guest.

Department of the Public Health

PROVINCE OF NOVA SCOTIA

Office—Metropole Building, Hollis Street, Halifax, N. S.

MINISTER OF HEALTH - - - - HON. F. R. DAVIS, M.D.,F.A.C.S., Halifax

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Chief Health Officer - - - - - -	DR. P. S. CAMPBELL, Halifax.
Divisional Medical Health Officer - -	DR. C. M. BAYNE, Sydney.
Divisional Medical Health Officer - -	DR. J. J. MACRITCHIE, Halifax.
Director of Public Health Laboratory - -	DR. D. J. MACKENZIE, Halifax.
Pathologist - - - - - - - - -	DR. R. P. SMITH, Halifax.
Psychiatrist - - - - - - - - -	DR. ELIZA P. BRISON, Halifax.
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DR. C. G. MACKINNON - - - - - - - - -	Mahone Bay.
DR. B. C. ARCHIBALD - - - - - - - - -	Glace Bay.
DR. G. V. BURTON - - - - - - - - -	Yarmouth.

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Kelley, H. E., Middleton.
Messenger, Carl, Granville Ferry (County).

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McLeod, J. K., Sydney.
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Johnston, T. R., Great Village (County).

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Drury, D., Maccan (County).
Gilroy, J. R., Oxford.
Henderson, C. S., Parrsboro.
Eaton, R. B., River Hebert (Joggins).
Walsh, F. E., Springhill.

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Melanson, H. J., Weymouth (County).
Doiron, L. F., Little Brook (Clare Mcpy).

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Sodero, G. W., Guysboro (County).
Moore, E. F., Canso.
Monaghan, T. E., Sherbrooke (St. Mary's Mcpy).

HALIFAX COUNTY

Almon, W. B., Halifax.
Forrest, W. D., Halifax (County).
Payzant, H. A., Dartmouth.

HANTS COUNTY

Bissett, E. E., Windsor.
MacLellan, R. A., Rawdon Gold Mines (East Hants Mcpy).
Reid, A. R., Windsor (West Hants Mcpy).
Shankel, F. R., Windsor (Hantsport).

INVERNESS COUNTY

MacLeod, J. R., Port Hawkesbury
LeBlanc, L. J., Cheticamp (County).
Proudfoot, J. A., Inverness.
Chisholm, D. M., Port Hood.

KINGS COUNTY

MacKinnon, Hugh, Berwick.
Bishop, B. S., Kentville.
Bethune, R. O., Kentville (County).
deWitt, C. E. A., Wolfville.

LUNENBURG COUNTY

Cole, W. H., New Germany (County).
Rehfuss, W. N., Bridgewater.
McKinnon, C. G., Mahone Bay
Zinck, R. C., Lunenburg.
Zwicker, D. W. N., Chester (Chester Mcpy)

PICTOU COUNTY

Blackett, A. E., New Glasgow.
McKay, W. A., Thorburn (County).
Whitman, H. B., Westville.
Stramberg, C. W., Trenton.
Dunn, G. A., Pictou.
Whitman, G. W., Stellarton.

QUEENS COUNTY

Ford, T. R., Liverpool (Town and County).

RICHMOND COUNTY

LeBlanc, B. A., Arichat (County).

SHELBURNE COUNTY

Brown, G. W., Clark's Harbour.
Churchill, L. P., Shelburne (County).
Fuller, L. O., Shelburne.
Banks, H. H., Barrington Passage (Barrington Mcpy).
Herbin, C. A., Lockeport.

VICTORIA COUNTY

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

YARMOUTH COUNTY

Blackadar, R. L., Port Maitland (County).
Burton, G. V., Yarmouth.
O'Brien, W. C., Wedgeport.
Fox, C. J., Pubnico (Argyle Mcpy).

Those physicians wishing to make use of the free diagnostic services offered by the Public Health Laboratory, will please address material to Dr. D. J. MacKenzie, Public Health Laboratory, Pathological Institute, Morris Street, Halifax. This free service has reference to the examination of such specimens as will assist in the diagnosis and control of communicable diseases; including Kahn test, Widal test, blood culture, cerebro spinal fluid, gonococci and sputa smears, bacteriological examination of pleural fluid, urine and faeces for tubercle or typhoid, water and milk analysis.

In connection with Cancer Control, tumor tissues are examined free. These should be addressed to Dr. R. P. Smith, Pathological Institute, Morris Street, Halifax.

All orders for Vaccines and sera are to be sent to the Department of the Public Health, Metropole Building, Halifax.

Report on Tissues sent for examination to the Pathological Laboratory, from November 1st to December 1st, 1934.

The number of tissues sectioned is 186. In addition to this, 38 tissues from nine autopsies were sectioned, making 224 tissues in all.

Tumours, malignant	31
Tumours, simple	21
Tumours, suspicious	1
Other conditions	133
Awaiting Section	0
Tissues from nine autopsies	38
	—224

Communicable Diseases Reported by the Medical Health Officers for the month of November, 1934.

County	Chicken Pox	Diphtheria	Influenza	Measles	German Measles	Pneumonia	Scarlet Fever	Typhoid Fever	Tbc. Pulmonary	V. D. G.	V. D. S.	Whooping Cough	Erysipelas	Septic Sore Throat	Impetigo	TOTAL
Annapolis	2	..	..	....	..	..	..	..	..	3	..	2	..	..	..	7
Antigonish	..	..	..	....	..	..	1	..	..	..	..	..	..	..	..	1
Cape Breton	10	1	6	1,084	5	..	4	..	3	3	1	25	..	..	3	1 145
Colchester	1	..	..	1	2	..	14	..	..	..	..	..	..	..	..	18
Cumberland	..	..	..	294	6	2	..	..	..	2	1	2	..	..	..	307
Digby	..	1	..	....	..	..	6	..	..	1	..	..	..	..	..	8
Guysborough	..	..	..	....	..	..	..	..	..	1	2	3	..	..	..	6
Halifax City	6	5	..	2	..	..	11	..	..	..	..	..	2	..	..	26
Halifax	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	....
Hants	..	3	..	....	..	..	1	1	..	..	..	..	..	..	..	5
Inverness	..	..	10	20	15	2	..	..	..	..	..	..	..	..	..	47
Kings	2	..	..	2	..	..	..	..	..	1	1	..	..	1	1	8
Lunenburg	54	..	..	....	..	..	5	..	..	4	..	..	..	..	..	63
Pictou	5	..	6	284	18	..	1	1	..	2	1	..	..	..	..	318
Queens	25	..	..	....	..	..	8	..	..	..	..	..	..	..	..	33
Richmond	..	..	..	....	7	..	..	..	..	..	..	18	..	..	..	25
Shelburne	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	....
Victoria	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	4
Yarmouth	..	..	..	....	..	..	..	1	..	..	..	..	..	..	..	1
TOTAL	105	10	22	1,691	53	4	51	3	3	17	6	50	2	1	4	2,022

RETURNS VITAL STATISTICS FOR OCTOBER, 1934.

County	Births		Marriages	Deaths		Stillbirths
	M	F		M	F	
Annapolis	9	9	22	5	3	0
Antigonish	7	9	9	3	3	1
Cape Breton	93	104	90	37	41	12
Colchester	19	12	20	12	8	1
Cumberland	24	33	46	19	18	2
Digby	21	21	10	8	7	0
Guysboro	9	12	15	4	7	1
Halifax	89	105	98	74	60	12
Hants	13	11	16	10	7	1
Inverness	29	27	11	10	6	3
Kings	20	15	13	1	12	2
Lunenburg	19	22	20	11	5	0
Pictou	31	32	31	17	21	2
Queens	8	10	12	1	7	1
Richmond	19	10	2	6	5	0
Shelburne	10	11	10	4	5	0
Victoria	8	1	8	0	2	0
Yarmouth	31	16	18	10	4	0
TOTAL	459	460	451	232	221	38

Personal Interest Notes

DR. AND MRS. W. N. REHFUSS and daughter of Bridgewater have returned from a very pleasant trip to Montreal and Toronto. During their visit Dr. Rehfuss visited hospitals in these cities.

A Generous Gift to the Children's Hospital, Halifax. Tangible proof of his genuine and sincere interest in the Children's Hospital in spite of the fact that he is ill at home, was shown on November 15th during the twenty-fourth annual meeting of the Hospital, when a letter was read from O. E. Smith, President of the institution, enclosing a cheque for $5,000, towards retiring the hospital debt. Glowing tribute to Mr. Smith's work and untiring effort on behalf of the Children's Hospital was paid by all who addressed the meeting.

Dr. E. A. Brassett, Dalhousie '34, has settled at Canso where he will practise his profession.

Dr. J. L. MacIsaac of Antigonish has been visiting various parts of the United States, spending most of his time in the clinics in New York and Rochester.

Dr. W. T. McKeough of Sydney Mines was elected President of the Cape Breton Curling Club for the coming season at the annual meeting held during the second week in November.

Dr. S. Harcourt Peppard, accompanied by his wife, were recently the guests of Dr. and Mrs. Ira S. Pidgeon, at Waban, Mass. Dr. Peppard and Dr. Pidgeon graduated from Dalhousie Medical School in 1923. Dr. Peppard, a native of Pugwash, now makes his home at Greenwich, Conn., where he is a medical director of the Blythewood Sanitarium. Mrs. Peppard is the former Jeanne Pickles, daughter of Mr. and Mrs. Frank Pickles, Annapolis Royal.

Dr. E. A. Ferguson of Weymouth during the first week of November narrowly escaped death when his car went over an embankment at Weymouth Mills, while the Doctor was bound on a professional call. The machine was badly damaged, but the Doctor escaped with slight injuries.

Dr. and Mrs. Donald M. Grant returned on November 24th to Eureka, Pictou Co. Dr. Grant is convalescing after a serious illness and intends to spend some time at Eureka before resuming his practice at Noel, Hants Co.

Honour Halifax Doctor with Fellowship. Halifax had particular interest in the clinical convention of the American College of Surgeons which took place in Boston, and the convocation of which was held in October, in

that one of the four men from the Maritime Provinces to be honoured, included Dr. Harry D. O'Brien of that city. Dr. O'Brien is one of the well known younger surgeons of Halifax.

Halifax Doctors Honoured for Service. On the morning of October 18th Lieutenant-Governor Covert conferred on Dr. S. H. Keshen and Dr. F. A. Minshull honorary life memberships in the St. Johns' Ambulance Association. Both of these Doctors carried on voluntary first aid training among firemen, police and other groups for the last several years.

Dr. M. G. Archibald, Kamloops, B. C., visited Halifax during October, the guest of Dr. and Mrs. A. McD. Morton. Dr. Archibald and Dr. Morton were both class mates at Dalhousie of the year 1898.

Dr. and Mrs. Carman C. Browne arrived in Nanaimo, B. C., early in October, after a pleasant trip across the continent including stop-overs at Montreal, Ottawa, Toronto and other cities. Dr. Browne is a graduate of Dalhousie University, 1929.

German Scientist joins Dalhousie University, Halifax. Dr. Martin Silberberg, formerly Professor and first assistant in Pathology in the University of Breslau and at one time elected to a high post in Nuremberg, will during the next two years carry on researches in the Department of Pathology in Dalhousie University.

Dr. Silberberg is one of the many exiled German scholars whose circumstances have been considered by the Committee in New York formed to aid displaced physicians and scientists.

The Carnegie Corporation has given a grant to provide for Dr. Silberberg for the next two years. Dalhousie University places its laboratory and equipment at his disposal, and this co-operation results in a benefit to Dalhousie University, and it may be to science at large.

Dr. P. S. Cochrane of Wolfville is on a trip to New York.

Dr. J. P. McGrath of Kentville has been elected the President of the Glooscap Curling Club of that town.

Dr. G. K. Smith who has been in New York taking a post-graduate course returned to Hantsport the end of November.

Dr. Sidney Gilchrist, returned missionary from Angola, West Africa, who has been spending a few days in Pictou, has returend to Halifax with his mother where she will spend the winter. After Christmas Dr. Gilchrist is leaving for Rochester to take post-graduate work at the Mayo Clinic.

Dr. and Mrs. R. H. McLeod of New Glasgow left the first of December for London, England, where the Doctor will take a post-graduate course.

Dr. and Mrs. G. F. White, of Annapolis, were passengers by the Furness Line steamer "Newfoundland" which sailed from Halifax on Saturday, October 13th, for Liverpool.

Dr. and Mrs. Arthur Green of Glace Bay have recently spent a short vacation in Montreal.

Dr. and Mrs. J. B. Reid returned to Truro the second week in November, following an extended motor trip to Boston, Chicago, Montreal and Toronto. While in Chicago Dr. Reid took special training. They were accompanied by their daughter, Miss Helen Reid.

Dr. and Mrs. W. H. Eagar of Wolfville sailed from Halifax on November 17th to spend the winter in England and France.

Takes Post-graduate Work. Dr. Hugh MacKinnon of Berwick left on November 30th on S. S. "Nova Scotia" for London, where, we believe, he intends to spend the next six months or so in post-graduate studies at the London Post-Graduate Hospital. Mrs. MacKinnon and their four children accompanied the Doctor, and they will stop with the grandparents in England. Dr. MacKinnon's practice in Berwick is being filled in the meantime by Dr. Roy Moreash. On the morning after his departure from Halifax, Dr. MacKinnon was seen comfortably ensconced in the lounge deeply engrossed in a book which on closer examination proved to be the November number of this Journal. The BULLETIN therefore fills the new role of a "Vade-mecum" for sea trips!

Dr. James Carson Murray, Dalhousie, 1932, son of Dr. Dan Murray of Tatamagouche, who has been assisting his father for the past year, has been taken on the staff of Camp Hill Hospital, Halifax.

The Secretary has received the following letter from Dr. R. J. Collins, Medical Superintendent of the Saint John Tuberculosis Hospital, East Saint John, N. B.

November 16th, 1934.

"Dear Sir:—

If there is any one among your present graduates looking for a country practice, there is a vacancy at present in Cambridge, N. B., (on the Washdamoak—a branch of the Saint John River, about seventy-five miles from Saint John and twenty-five miles from Fredericton). It is the centre of a considerable farming district and has always supported a doctor very adequately.

Yours sincerely

(Sgd.) R. J. Collins, M. D."

A Country Newspaper recently published the following:—"Sam Haskins accidentally shot himself while hunting. One of the wounds is fatal, but his friends are glad to hear that the other is not so serious." This newspaper was not printed in Nova Scotia.

OBITUARY

The BULLETIN regrets to learn of the death at 27 Willow Street, Halifax, on November 13th of Mrs. Pearl Wilma, wife of Dr. W. P. Mackasey. The funeral service was held on November 15th, Rev. J. A. MacKeigan officiating.

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