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Vol. XXII.

HALIFAX,
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1910.

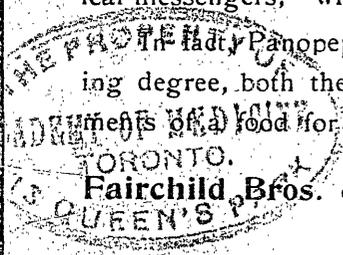
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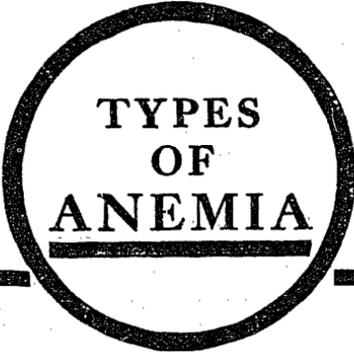
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THE MARITIME MEDICAL NEWS

VOL. XXII., FEBRUARY, 1910, No. 2.

WORLD OF MEDICINE.

Some Uses of Opium.

This is the subject of an interesting and practical article by Eustace Smith, *British Medical Journal* for December, 1909. The author reminds us that opium has stimulating as well as sedative properties, and that as a general stimulant to the nerves, the brain, and all the organs of life, it has definite value. Opium and morphine are not quite the same in this respect, the former being a more active stimulant than the latter. The stimulating effect is best obtained by administration of small doses at suitable intervals. The invigorating influence can be turned to account in the case of obstinate sores occurring in cachectic children. The ulcerative stomatitis which is so common among the ill-fed and badly nourished children of the very poor, often shows little disposition to heal, even when treatment is reinforced by a generous diet and healthy surroundings. When repair is thus at a standstill, a few drops (two to five) of laudanum given twice a day quickly induce a welcome change in the local conditions, and start an improvement which goes on smoothly to a cure. Opium exerts its influence by means of the nervous system, through which it gives energy to the capillary circulation, and effects to some extent every organ of the body. There can be no doubt that the circulation is stimulated by the remedy. The feet become warmer, and the resistance of the

body to the depressing influence of cold is very appreciably enhanced. This primary effect of the drug as a stimulant of the nervous system is a quality, the value of which must not be forgotten. The nervous trepidation called "stage fright"—the ill-defined sinking apprehension which as familiar to the orator and the player, and is not unknown to the student as he prepares to face his examiner—may be forestalled and disarmed by a small dose, five or six drops, of laudanum taken half an hour or so before his trial is to begin. Again, the nervous tremblings and depression which may be induced by a shock, and are apt to follow a surgical operation, are amenable to the same influence. Such a dose, separated, if necessary, several times at intervals of half an hour, is usually soon followed by tranquility and sleep. The same treatment will go far to relieve the distress of dying persons. Under the influence of a few drops of the tincture the painful uneasiness abates, and is succeeded by a period of restful calm, which may be maintained by judicious repetitions of the remedy until the close. Again, the profound mental depression which sometimes afflicts elderly people, making their lives a burden to themselves and to their relatives, may be alleviated by the same means. In this, as in the preceding cases, the drug acts as a stimulant, and something more; it quiets nervous irritability, while at the same

time it gives a welcome spur to jaded nerve. There are few cases of nervous unrest in which opium given in these moderate, stimulating doses, fails to relieve. Children who have been treated surgically for empyema and wear a drainage tube often suffer much uneasiness while the drainage process is going on. Under this treatment their restlessness is calmed, and they are enabled to bear the continued presence of the tube without showing any sign of discomfort. In all forms of illness in which the nervous system is irritable and perturbed the same treatment will be found of service. When thus given with a view to stimulation the dose of the drug must be carefully limited, for too large a quantity would defeat our object; and it must be remembered that the susceptibility of the system to the remedy varies greatly in different cases—in adult life as well as in the child. It is wise therefore, to begin with a very moderate dose, lest, unwittingly, we produce an effect the very opposite to that which we desire. The dose can be repeated at intervals of half an hour until the end we aim at is achieved. A fear is often expressed of establishing an "opium habit" if this form of sedative is used for a long time; and to this fear may possibly be ascribed the neglect into which this invaluable drug is beginning to fall. But if proper care is taken the danger is surely a fanciful one. When the remedy ceases to be required it should be withdrawn as quickly as possible; and with the exercise of care there is little difficulty about leaving it off, even if the drug has been continued for a period of months. The assumed difficulty arises from the extreme irritability of the nervous system which follows the sudden omission of the usual sedative

dose. This is sometimes distressing in the extreme, and many a victim to the drug, although profoundly anxious to free himself from its thralldom, has shrunk from provoking the suffering which he well knows the struggle for liberty will entail. This suffering may be avoided if the dose is gradually reduced until the quantity taken is very small. If then it is withheld altogether, the nervous unrest which ensues is moderate enough to be readily controllable by a few doses of tincture of gelsemium.

* * *

Is Radium a Cure for Cancer? Louis Wickham uses, in his article in the *British Medical Journal* for December 19th, the word "cancer" in its widest sense, signifying a whole series of malignant new growths histologically different, including epitheliomata, carcinomata, lympho-sarcomata, sarcomata, lymphadenomata, mycosis fungoides, etc. Considered from this point of view he affirms, from a study of some cases of tumours of each variety, before, during and after the treatment that the malignant evolution of these tumours may not be arrested for months, but that occasionally these tumours have entirely disappeared, giving the impression of real cures, the rays having on cancer cells a somewhat selective action. The first point is most striking, and it has led, from the point of view of practice, to an exaggerated favourable conclusion. We must not rest satisfied with the observation of the growths alone; we must reason as medical practitioners, and place ourselves in the position of the patient with cancer, and see if in practice the patient derives any benefit from these selective effects of radium, and to what degree. Radium cannot at pre-

sent have other pretensions than to act on lesions which are localized and sufficiently accessible, or rendered accessible. In cases with generalization, the resources of radium are limited to the reduction in size of the principal tumours, to the arrest of hæmorrhage and secretion, and to the diminution of pain. If the cancer is localized and accessible, but inoperable, radium, with some rare but very remarkable exceptions, can only diminish or stop the hæmorrhages and secretions, and occasionally render the tumour operable; but, in spite of these great advantages, which result in a prolongation of life, the patient, in the end, dies of his cancer. Certain tissues are infinitely less favourably acted on by radium than others, for example, the mucous membranes, especially of the buccal cavity (tongue, tonsils, pharynx, etc.), and in these cases must be added the material difficulty of reaching the region conveniently, and applying the heavy screen fitters and leaving them in position for a sufficient length of time. If the cancer is very extensive, a radium therapist has great difficulty in obtaining the stock of radium necessary to act sufficiently in every direction, for the number of doses needed in a number of cases is very high. The author, therefore, answers, the question thus: Radium is actually able to play in the fight against cancer, in spite of reservations, an important role, because it is a valuable auxiliary in sufficiently experienced hands and in certain cases which the physician must know how to distinguish. * * *

Locomotor Ataxia. Abadie, in 1905, directed attention to the frequency of analgesia of the tendons in locomotor ataxia, which he found to be most constant in the tendo Achillis. This tendon was in-

sensitive to pain when pinched between the finger and thumb in 80 per cent. of a large number of cases examined in every stage of the disease. But little has been done to investigate the truth of Abadie's claims, and the few reports as to the value of the sign are somewhat conflicting. Rowly, in a paper contributed to a recent number of *Wiener klinische Wochenschrift*, reports the results of observations made in Schlesinger's clinic in Vienna. Of thirty cases, there was analgesia of both Achilles tendons in seventeen, and hypalgesia or unilateral algesia in five others. Abadie's sign was thus present in more than two-thirds of the cases, and is consequently almost as constant a symptom as loss of the knee jerks. Analgesia of other tendons is frequently, but by no means so constantly found. Abadie's sign is somewhat available before the patellar reflex is lost, and is seldom absent in the advanced stages of the disease. Control tests, made on one hundred non-tabetic subjects, demonstrated complete analgesia of the tendo Achillis in but three cases, although some hypalgesia was detected in nine cases. Of the three cases of complete analgesia, one was that of a man who was remarkably insensitive of pain; another that of an hysterical woman with various functional disturbances of sensibility; and the third was a case of progressive pernicious anæmia with signs of disease of the posterior columns of the spinal cord. Analgesia of the tendo Achillis may thus be considered an important sign in locomotor ataxia.

* * *

The Surgery of the Spleen. From our inability to recognize diseased conditions in their early stages, says W. J. Mayo, in the *Journal of the American Medical Association*

tion, January 1st, the surgery of the spleen has necessarily been of a destructive character. Recent investigations lead to the surmise that many of the anæmias and associated blood states may ultimately be best treated by operative procedure on the spleen and other blood-forming organs. He describes the anatomy and known functions of the spleen, before birth and during life, and says that its protected situation overlain by other important organs, makes it exceedingly difficult to ascertain moderate enlargements. He questions our ability to mark accurately any moderate enlargements by percussion, but he believes that surgeons can do a great deal to increase our understanding of conditions by routine examinations of the organ during abdominal operations when an altered blood state exists. He puts the classification of splenic enlargements into three classes: First, leukæmias in which the spleen produces white corpuscles of the ancestral type, a probable reversion to the fetal form of blood. Second, splenic anæmia with a diminution and change of character of the red blood corpuscles which are pathologically destroyed to some extent. Third, splenomegaly, an enlargement without blood changes and only mechanically affecting the general health. In addition to these classes there are two conservative types of enlargement of the spleen. One, the compensatory splenic hypertrophy and second, the enlargements after infectious diseases. Unless the spleen is more or less movable its surgical approach is difficult. The Mayos have usually used an incision through the left semilunar line carrying, if necessary, the upper end along the costal margin to the ensiform cartilage. He has not found Myer's procedure of cutting the costal

cartilages necessary as yet, but in some cases a left transversal incision joining the longitudinal is convenient. In advanced disease, adhesions, especially to the diaphragm, are occasionally difficult to separate until after the splenic pedicle has been secured. To grasp the vascular pedicle temporarily in rubber covered elastic clamps is the most important step in the operation if the vessels are fairly sound. This must be very carefully done on account of the delicacy of the splenic vein. To grasp the pedicle securely the organ should be turned over, at least enough to grasp the vessels in the hand. With the fingers and blunt dissection, a passage way is made around the pedicle and a clamp applied and tightened enough to control the circulation, until the spleen can be entirely separated and delivered outside the wound. If extirpation is the object of the operation the pedicle can be secured at any time after the application of the elastic clamp which is applied as close to the root as possible so as to leave distal to it, ample space for ligation. If partial resection is to be done, temporary compression of the pedicle seems harmless if there are no gross vessel-wall changes and after the use of the clamp the desired amount can be resected and the hæmorrhage controlled by buttonhole catgut suturing with a round needle, as in liver resection. "It has been shown experimentally that reduction of the artificial supply by ligation results in atrophy of the spleen, and so long as the veins are left intact, necrosis does not occur. If the splenic artery divides in the hilum, ligation of branches would appear to be an active competitor of partial splenectomy. We have not found the marked alterations in the walls of the blood vessels which have been shown to be

often present at post-mortem and which probably represent a terminal condition." Mayo analyzes his experience with thirteen cases, three conservative operations and ten splenectomies. Brief histories of all these cases are given. The article is illustrated.

* * *

Latent Chorea.

An article from the pen of Reginald Miller, entitled, "Latent Chorea: A Contribution to the Study of Sydenham's Chorea," appears in the *Lancet* for December 18th, 1909. Miller remarks that rheumatic chorea declares itself first by symptoms significant of general nervous instability. In dealing with children suffering from nervous disorders of many kinds special care should be taken to exclude the possibility of their having originated from slight rheumatic infection. The well known association between rheumatic and nervous instability is not to be explained by considering that the infection is specially prone to attack neurotic children, but by regarding the nervousness as in most cases the outcome of an infection already present (latent chorea). The mental depression and headache in rheumatic children are usually to be attributed to the disease and not to its treatment by salicylates. The recognition of latent chorea in children suffering from obvious acute rheumatism affords strong evidence that chorea is a rheumatic condition.

* * *

Arterio Sclerosis.

The treatment of arteriosclerosis is summarized by A. G. Brown, in the *Journal of the American Medical Association*, for January 8th, substantially as follows: In the early arterial stage, a strict diet, regimen and anti-

toxic treatment, consisting in elimination, intestinal disinfection diaphoresis, and diuresis. When hypertension persists, the nitrites and iodides should be given, the latter in effective doses, and kept up for a given length of time. When the blood-pressure has become lowered, the intoxication relieved, the kidneys act normally, and the symptoms of arterial spasm disappear, the patients may be considered cured, though a careful observance of the prophylactic regimen must still be kept up. In the cardioarterial stage, a permanent cure is not to be expected but much can be done to relieve symptoms and to ward off a grave termination. Relief of symptoms, elimination of intoxicants and stimulation of kidney activity are the chief indications. This is accomplished by catharsis followed by nitrites, spartein sulphate, etc. With the tension lower and the skin, bowels and kidneys active, and diet carefully regulated, the use of nitroglycerin, erythrol tetranitrate, potassium or sodium iodide, thyroid extract, and general medical supervision, the disease may be arrested and the serious accidents forestalled. In the myovalvular and cardiocutaneous stages, which merge into each other so as to form one continued progress to broken compensation, with dilation of cardiac cavities and frequently orifices, lowered arterial tension, more or less visceral congestion and oedema, and dropsy, are to be treated with the digitalis group, theobromin, interdiction of salt intake, restriction of diet to milk, and careful elimination of fluids. In these cases, often appearing hopeless, much can be done to restore the patient to modified activity, and the subject offers a field for the skill of the best powers as physicians.

In an article on the **Peptic Ulcer**. "Diagnosis and Treatment of Peptic Ulcer," appearing in the *Medical Record* for January 1st, Charles E. Nammack says that peptic ulcer is most frequent in chlorotic young women and in men past middle life. Peptic ulcer is not an erosion, but a degeneration of necrosis, associated with trophoneurosis of the stomach, and hyperacidity of the gastric juice, producing autodigestion. Turek believes that there is some toxic status which overcomes natural resistance, and some chemical substances are formed in the intestinal canal which neutralize the protective bodies in the blood. The cardinal symptoms are pain after eating, epigastric tenderness, vomiting of very acid material, hæmatemesis, and blood in the stools. Objective signs show only tenderness over the stomach, and perhaps a palpable tumour. The differential diagnosis in atypical cases is given. Prophylaxis is difficult on account of lack of early diagnosis. Rest in bed is of prime importance, with appropriate light diet, beginning with starvation for a few days. Diet differs according to the practitioner. Most cases should be treated medically at first. If found rebellious after two months they should be submitted to the surgeon.

* * *

Diagnosis of Infections.

A new diagnostic skin reaction in the acute infections is described by Leonard K. Hirshberg, in a recent issue of the *New York Medical Journal*. By his method, the author claims that he has been able to determine the variety of the infecting organism. The method briefly is the following: A number of parallel scarifications are made upon the skin and about 0.1 c.c. of stock vaccines of various germs are

applied. The types of organisms used depend upon the suspected infection. Thus in one case, the colon, paratyphoid, streptococcus and gonococcus vaccines were used; in another, the pyocyanus bac. bulgaricus typhoid, colon and paratyphoid. If the patient is the subject of an infection by one of the organisms, the corresponding vaccination will show local changes, varying from a hyperæmia to œdema and infiltration of the skin. In twenty-two cases in which this method was employed, the reaction appeared to agree with the clinical diagnosis. No more exact confirmation seems to have been made by the author.

* * *

In *American Medicine* **Pneumonia**, for November, John L.

Andrews treats of the salicylic treatment of pneumonia, giving his personal experience with certain drugs in acute lobar pneumonia. He believes that the three conditions most to be feared in this disease are high temperature, cardiac exhaustion or dilatation, and œdema of the lungs, other conditions being distinctly secondary to this trinity of symptoms. Many years ago Dr. A. A. Smith favored the use of salicylate of soda in the very early treatment of pneumonia, with the hope of aborting the disease. It was given with the idea that enough was absorbed by the blood and tissues to inhibit the growth of the pneumococcus. The use of this drug, however, is beset by at least two important disadvantages: first, it frequently disagrees with the stomach; and secondly, it is apt to depress the heart in the later course of the disease. Occasionally, too, the kidneys are irritated by its use. Acetylsalicylic acid, however, seldom disagrees with the stomach, save in patients

with gastric hyperacidity. The regular effect in pneumonia is very striking, about twenty to thirty minutes after a dose has been taken the patient begins to perspire and this continues for from one to three hours. In some cases in which the drug is given in ten grain doses, and four doses a day, the skin will be moist most of the time. Coincident with the skin moisture, the patient becomes less restless and generally slips off into a quiet sleep lasting for one or more hours. With the outbreak of sweating the temperature begins to fall and declines sometimes three or four degrees. With this fall the pulse rate become proportionately slower and the pulse distinctly improves in quality. These patients have a regular rise of temperature once or twice a day and from one to three days before defervescence. In no case has he seen any sign of heart depression from the effect of the acetylsalicylic acid, and it is exceedingly rare to find it necessary to use a heart stimulant throughout the disease, in cases uncomplicated by previous cardiac or other diseases. He does not claim the course of pneumonia is shortened by the use of acetylsalicylic acid, although he believes that a sufficient experience will show it. All complications are not eliminated. He has had no cases of wandering pneumonia, delayed resolution, or empyema. Alcoholics have their delirium, but he has found it mild in character.

* * *

Delirium Tremens. A new plan of treatment of delirium tremens was outlined in a paper delivered by George E. Petty before the Southern Medical Association, at New Orleans, in November last. The paper is abstracted as follows:

This condition is defined as a fundamental disturbance coming on during

the course of chronic alcoholism, and is due to accumulation of toxic poison in the blood. These poisons are of both drug and autogenous origin. The potency of these poisons is progressively increased by a loss of the fluid element of the blood by excessive perspiration and by deficient absorption of water from the stomach. In fully developed cases the volume of circulating medium is pathologically decreased. The brain is hyperæmic in a large majority of cases and anæmic in a small per cent. These conditions of the brain are an essential factor in the immediate causation of the delirium. In order to intelligently apply remedies to the control of delirium it is necessary to differentiate the hyperæmic from the anæmic cases.

The indications in treatment are: Support of vital functions, control or arrest of delirium and removal of poison from the blood.

For the purpose of restoring the volume of blood, supporting action of heart, and promoting elimination by kidneys, normal salt solution is given by rectum, by hypodermoclysis, and in severe cases intravenously. This is pushed until the entire arterial and venous systems are filled with fluids to their utmost capacity, then this fluid is drained off by the bowel with large and repeated doses of epsom salts, the idea being to practically wash the poison out of the blood by forcing fluids into the system and draining the same out by the bowel and kidneys. Calomel is given in full doses at the beginning of the treatment. Sparteine in doses of two grains is given every two to six hours for the purpose of giving additional support to the heart and promoting action of kidneys. This remedy is classed as our most reliable heart tonic and an efficient non-irritating diuretic.

The free introduction of normal salt solution gives most reliable support to the heart, dilutes and renders less toxic the poison in the blood, improves the condition of the patient in every respect and does much to allay the delirium; but for the special purpose of combating the delirium in the hyperæmic cases, gelseminine is given in doses of 1-25 grain every one or two hours until its full physiological effect is developed, unless the delirium and unrest are sooner allayed. This drug is a reliable cerebral sedative and motor depressant, and is not incompatible with any drug indicated in the hyperæmic type of cases, but should not be given in the anæmic cases. Strychnine, a drug the effects of which are directly opposite those of gelseminine, is given for the control of the delirium in the anæmic cases. Strychnine is positively contradicted in the hyperæmic cases, but in the anæmic cases, by increasing the blood supply to the brain, it quiets delirium. Alcohol is reduced to a moderate quantity but not entirely withdrawn during the delirium. Physical restraint is condemned. Opiates and other narcotic and sleep-producing drugs are condemned. They are not only dangerous *per se*, but interfere fatally with the action of the curative remedies. This plan of treatment has been employed, when indicated, in 450 consecutive cases of chronic alcoholism. Some of these were delirious when admitted, others developed delirium after admission, but in no case did the delirium resist the treatment longer than twenty-four hours, and in most cases this symptom was overcome in from six to twelve hours from the beginning of treatment. No death from delirium tremens occurred in the entire series of 450 cases.

Cancer of the Lip.

Delay in operating for cancer of the lip is deprecated by E. A. Babler, in the *Journal of the American Medical Association* for January 8th, who especially condemns any trifling with palliative measures in these cases. He says that the secret of success lies in early and complete removal of the growth on the lip and glands in the submental and submaxillary fossæ. The technic which he says seems best is given as follows: "For two or three days before operation the patient is given a mouth-wash and the teeth cleansed three times daily. Under ether anæsthesia, a collar incision is made and the glands in the submental and submaxillary regions, together with the adipose tissue, are excised. Drainage is provided for through two small supplemental incisions. The wound is then sutured and protected with gauze pads, which latter are held in place by an assistant while the growth on the lip is being removed and the parts sutured. In my own cases the entire wound surfaces are swabbed with Harrington's solution and then with salt solution before being sutured. The drains are removed on the second day. The patient is permitted to leave his bed on the fourth day." The conclusions which Babler feels justified in offering from his study of the subject are given as follows: "1. The causes of failure in the treatment of cancer of the lip are (1) late recognition of the disease, (2) the patient's refusal of early operation, and (3) incomplete operative technic. 2. The common practice of treating cases of persistent 'fissures' or 'crack' of the lip in a patient thirty years of age or over, with pastes, caustics or powders, is to be deplored. The fissure or crack should be excised and immediately subjected to microscopic

examination. 3. The secret of success lies in early recognition and prompt excision of the growth, together with contents of submental and the submaxillary fossæ. The character and completeness of the primary operation determine the success or failure of the treatment. 4. Moles and warts, especially when so situated that they are subjected to more or less constant irritation, should be excised, lest they become malignant."

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Writing under the caption **Nephroptosis.** "Nephroptosis, its Cause and Diagnosis by Inspection," in the *Medical Record* for January 1st, Mark I. Knapp declares that it is possible to the educated to see the outline of all the abdominal organs through the walls, and that every physician should so educate his eye that he is able to make diagnoses this way. Respiration and the motion of the organs with it is the element which aids us in this observation. Obesity makes no difference, and the fat person shows the outlines better than the thin one. The skin adapts

and molds itself in accordance with the subjacent organs, presenting elevations, ridges, depressions, and furrows; all move with respiration; the movement of the skin is perpendicular to the movements of the viscera. The axis of motion of the viscera is longitudinal. We must have light of medium intensity, and the observer must stand a certain distance away from the patient so that his line of vision will fall obliquely in the region to be seen. Tremulous, wave-like movements in the region of the stomach indicate gas in the stomach which transmits the concussions of the heart. Nephroptosis may be seen. It is caused by sudden shocks, such as in jumping rope, or sudden motions of an elevator, affecting an organ that is very slightly and loosely attached to the abdominal wall. Normally the kidney is seen one inch from the spine and two inches above the crest of the ilium. It can be seen to recede with inspiration and come down suddenly at the end of expiration. With nephroptosis no such recession is seen, and there is a hollow in this location.



EDITORIAL.

THE KENTVILLE SANITARIUM.

RECENT changes in the management of the Kentville Sanitarium have received such scant notice in the lay press that the bulk of the profession are probably not aware of them. The changes are briefly the appointment of Dr. A. F. Miller as resident superintendent, and the consequent retirement Miss Elliott the resident matron superintendent, and the attending physician, Dr. W. S. Woodworth. It is a well known fact that the profession never liked the scheme of management which was adopted by the government. It was very generally felt that the authorities were too much influenced by economical motives, and that they did not sufficiently recognize the fact that the personality of a resident physician plays a large part in ensuring the success of such an institution and of commanding the confidence of the profession. The MARITIME MEDICAL NEWS of May, 1904, expressed the views of the profession very clearly. "It is said that a resident medical superintendent is not likely to be appointed. We trust the report is incorrect. The profession recognizes that successful results can only be obtained by close attention to the many and minute details of treatment which require constant modification to suit individual cases. Each case will call for close and continuous study and the exercise of tact, and no one except a specially trained medical man can carry out the work and enjoy the confidence of the medical profession and patients."

The full acceptance by the government of the views held by the profession is worthy of note and congratulation. Dr. A. F. Miller, the recently

appointed resident physician has very much in his favour and comes well recommended. He is a young man, a hard working, careful student and has plenty of energy and enthusiasm. He has devoted the greater part of his professional life to the study of the problems of tuberculosis. He has prosecuted his studies mainly at the well known Saranac Sanitarium under the direction and guidance of the famous Dr. E. L. Trudeau, one of the most eminent authorities in America on tuberculosis.

Dr. Miller's qualifications will ensure him the respect and good will of the profession. Confidence will not be extended until his usefulness on behalf of the institution under his charge has been demonstrated by good results.

It is confidently hoped that when Dr. Miller has his official work well in hand he will have time to take part in the great educational campaign now being conducted against tuberculosis. He will receive a warm welcome at meetings of our various medical and anti-tuberculosis associations.

The retiring officials, Miss Elliott and Dr. Woodworth, are entitled to praise for the careful way they discharged their duties under most adverse conditions. Their retirement has not been due to lack of executive ability, but to an urgent necessity for change in the mode of management.

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THE HALIFAX INFIRMARY.

THIRTY years ago there was only one general hospital in operation in Nova Scotia, the institution then known as the Provincial and City Hospital, later as the Victoria General Hospital. The building was completed about 1860, but

from lack of funds it was only used for some years for the reception of those suffering from infectious diseases. Dr. Chas. Cogswell took a prominent part in securing the construction of the building. The hospital was placed on a working basis in 1867, largely through the efforts of Sir Chas. Tupper, who for many years filled the post of City Medical Officer.

At first the capacity was about 50 beds, and for a number of years about 500 patients annually received treatment. No provision was made for paying patients. Trained nurses were not even thought of. The institution working on as it did under a great many adverse conditions proved to be a great boon to suffering humanity. To-day we have over a dozen well equipped hospitals, varying in capacity, scattered over the province and treating annually over 4000 patients. Ample provision exists for the treatment of paying patients, trained nurses abound and the strong prejudice against hospital treatment which formerly was so pronounced has largely disappeared. The superior advantages of an up to date hospital for surgical procedures is now universally recognized.

The Halifax Infirmary was opened for the reception of patients in 1886, in a small way, largely by the persistent efforts of the late Dr. Edward Farrell. An old-fashioned private house was for nearly twenty years utilized as a hospital, mainly for the reception of private patients, and especially those who had to undergo surgical operations. Dr. Farrell was fortunate in being able to induce the

Sisters of Charity to take charge of the Infirmary. Under their guidance the institution has made rapid progress. A new brick building was completed in 1905, by the side of the old structure, which afforded greater accommodation for a time. Now the necessity is urgent for further extension.

We learn from reliable sources that the number of patients treated at the Infirmary during the year 1909 was nearly 500, and that considerably over 250 operations were performed, the majority being major operations. The mortality rate was under three per cent.

Over 100 free patients were treated, a fact which speaks volumes for the industry and financial ability of the good sisters. The endowment is very small, not exceeding \$8,000, and no aid is obtained from the city or province, the institution being wholly supported by receipts from patients and voluntary contributions.

A Training School for Nurses, organized early last year, bids fair to be a success, and will no doubt in time improve the character of the nursing.

A complete X-ray and electrical equipment has been recently installed and the work will be conducted by Dr. Eagar.

The institution extends its benefits to persons irrespective of creed and nationality. No earthly reward comes to the devoted sister, who toil and moil unceasingly on behalf of the sick and afflicted. An institution doing such splendid work is surely worthy of generous support without resort to customary appeals.

THE RELATION OF THE PHYSICIAN TO THE LAW.

By J. S. BENTLEY, M. D.,

St. John N. B.

Presidential Address St. John Medical Society, October 6th, 1909

COLERIDGE has said: "To most men experience is like the stern lights of a ship, which illumine only the track it has passed." Personal experience and the experience of others are both valuable teachers, but where the law is concerned the former may prove very costly, while the latter is invaluable.

So I have determined to say a few words on a subject which is most important, and perhaps too little known among the profession—"The relation of the Physician to the Law."

At the very outset of his career the physician finds himself or herself amenable to the law and must qualify before a board appointed under the law for license to practice in the particular province in which he is to locate; and, should he remove to another part of the Dominion he must satisfy the authorities there that he is competent according to their standards.

Now, while we may feel that conditions would be bettered by a Dominion Registration with a central examining board, still such is the law, and while it remains so it should be enforced.

We all realize that the most cordial relationship should exist between practitioners separated by the convenient boundary lines which divide this great Dominion into provinces, and we all look to a time when Dominion Registration will do away with provincialism in matters medical; but, until such a desirable end is consummated and existing laws are changed, the member of the medical profession, who, with the hope of

gain or reward, comes into this province from another (or vice versa) to remove a cataract, to perform a surgical operation or to hold a consultation, does so in direct violation of the law.

Physicians are frequently called upon to give certificates of various kinds: the patient who is insured against accident or disease will desire the worst possible report of what may be a trivial indisposition; the man summoned to give evidence in court or to serve on a jury will be taken suddenly and unexpectedly ill and will require a doctor's certificate to present to the court; the parent whose child you must have *successfully* vaccinated will want a certificate at once in order that a school permit may be obtained; and everyone is anxious to avoid placarding his home in case of contagious diseases. It behooves the medical man to exercise the greatest caution, for laxity in such matters will at once lessen the patient's respect for him, and throw discredit on that most honourable profession to which he belongs.

Gentlemen, I would be unwilling to admit that any such laxity exists; but if any honourable judge of a Supreme Court should make the statement that he would accept no more doctors' certificates I would feel that either the profession was involved or that the learned judge was under misapprehension.

BEFORE THE CORONER'S COURT.

Clergymen and medical men do not possess the same privilege as counsel, solicitors and attorneys with regard

to confidential communications made to them in the performance of their professional duties; but the judge has shown a disinclination to receive such communications made to clergymen.

Dying declarations are still admissible, although the attendant surgeon has given some hope of living to the dying person before the declarations are made, and such declarations may be taken in evidence if the deceased believed he should not recover in spite of the hope expressed by the surgeon.

In speaking of dying declarations, Prof. Tidy states: "It may fall to the lot of a medical man to be present when dying declarations are made which may become of great importance. In such cases if a magistrate is present he should not interfere beyond calling the attention of the magistrate to what is said if he is not attending to it, and by giving professional opinions as to the dying person's state whether it is hopeless, whether the person is capable of understanding what he is saying, and so forth.

"But if no magistrate is present the medical attendant is the most proper person to receive the dying declaration. He should first ascertain the views of the party as to his chances of recovery and record what is said in the actual words, and then take down also in his actual words his dying declaration and have the statement signed by the party if possible.

"If there is no possibility of taking down the words at the time of utterance they should be recalled and put in writing as soon as, and as accurately as possible."

If in New Brunswick the coroner finds that the deceased was attended during his last illness or at his death by any legally qualified medical practitioner, he may issue an order for the attendance of such practitioner as a witness at such inquest, and he may

direct that witness to make a post-mortem examination if necessary.

A medical witness must be summoned in regular form as provided in the New Brunswick Consolidated Statutes.

Whenever it appears to the majority of the jury that the cause of death has not been satisfactorily explained by the evidence of the medical practitioner or other witnesses examined, they may name to the coroner, in writing, any other legally qualified medical practitioner or practitioners, and require the coroner to issue his order for his or their attendance, and for the performance of a post-mortem examination as above mentioned, and whether before performed or not.

In New Brunswick if a medical practitioner without sufficient cause refuses to attend on any summons he forfeits twenty dollars.

In New Brunswick the fees of the medical witness are—

Attendance without post-mortem.	\$4.00
Attendance with a post-mortem.	8.00
Travel per mile05

When an inquest is held on the body of any person dying in a public institution, the medical officer of such institution is not entitled to any fee except for a *post-mortem* and attendance to give evidence thereon.

EXPERT MEDICAL EVIDENCE.

It is noticeable that of late years the expert medical witness has figured more and more prominently in criminal and civil actions; and, what is much to be deplored, his evidence does not always seem to carry the weight or receive the deference it should. Several reasons would seem to contribute to this unfortunate condition.

Many witnesses are qualified neither by education nor by experience to act as experts.

Some adopt a seeming partisan attitude, and by clever and ingenious

cross-examination the most qualified experts may be led to swear to apparent opposite conditions of facts.

Naturally the public and consequently the jurors become prejudiced.

It is of prime importance that the medical expert should be one who by learning and experience has become especially skilled in some branch of medical practice and whose opinion and judgment are consequently sounder than those of the average physician. No medical man should, for the sake of notoriety or for the pecuniary reward, pass expert opinion unless he feels his knowledge of the subject in hand to be the most intimate. Our physicians should be extremely loath to give evidence against another, unless he feels reasonably certain that by his not doing so, justice will miscarry.

Where one is simply a witness he should decline to express an opinion, and where he is in the capacity of an expert he should arrange beforehand with counsel for whom he is appearing as to the remuneration he is to receive, when no such arrangement is made the legal tender is \$5.00 per day.

The medical expert is, and should be regarded as, a scientist, and his evidence should be received by the court with every consideration. He should fully realize this himself and if necessary, insist upon due deference.

There are certain sections of the Criminal Code (Canadian) which refer to the medical profession.

Sec. 57 says: "Everyone is protected from criminal responsibility for performing with reasonable care and skill any surgical operation upon any person for his benefit, provided that performing the operation was reasonable, having regard to the patient's state at the time and to all the circumstances of the case."

Sec. 212: "Everyone who undertakes (except in case of necessity) to administer surgical or medical treatment, or to do any other lawful act, the doing of which is or may be dangerous to life, is under a legal duty to have and to use reasonable knowledge, skill and care in doing any such act, and is criminally responsible for omitting without lawful excuse to discharge that duty if death is caused by such omission."

Sec. 214: "Everyone who undertakes to do any act, the omission to do which is or may be dangerous to life, is under a legal duty to do that act, and is criminally responsible for the consequences of omitting without lawful excuse to perform that duty."

It may be interesting just here to make reference to cases which are of somewhat frequent occurrence, namely, when no medical advice has been obtained, or where some one other than a medical practitioner has been called in.

Queen vs. Downs was a prosecution for manslaughter in neglecting to provide medical treatment for an infant child, ill with chronic inflammation of the lungs, death having resulted from the neglect.

Evidence was given as to the sect called "the peculiar people," to which the accused belonged, the members of which had religious objections to giving medicine in case of sickness, and who depended altogether for recovery on prayers and anointing with oil in supposed literal compliance with the Epistle of St. James: "Is any sick among you? let him call for the elders of the church and let them pray over him, anointing him with oil in the name of the Lord: and the prayer of faith shall save the sick, and the Lord shall raise him up." The defendant was found guilty.

Lord Coleridge, in summing up, said: "That enactment, I understand to mean, that if any parent intentionally, i. e., with the knowledge that medical aid is to be obtained, and with a deliberate intention abstains from providing it, he is guilty of an offence."

A person who practised as a Christian Scientist was called in by the parents of a child suffering from diphtheria. She was not retained as a medical attendant and she did nothing but sit silently by the child, who subsequently died of the disease. She was then indicted for manslaughter. According to medical evidence, the life of the child might have been saved or prolonged if the usual remedies had been applied. The court held that the accused could not be convicted under the above two sections. Also, that the father of the child could not be indicted under sections 209 and 210 for not having supplied the child with a necessary of life, namely, medical attendance, nor could the accused be indicted as an accessory to the father's neglect.

Sec. 218: "Homicide is the killing of a human being by another, directly or indirectly, by any means whatsoever. Homicide is either culpable or non-culpable. The latter is not an offence."

Sec. 219: "A child becomes a human being within the meaning of the Act, when it has completely proceeded in a living state, from the body of its mother, whether it has breathed or not, whether it has an independent circulation or not, and whether the navel string is severed or not. The killing of such child is homicide when it died in consequence of injuries received before, during, or after birth."

Under sec. 230 a medical man is bound to use proper skill and caution in using a poisonous drug or danger-

ous instrument; and if death results from his failure to do so, he is guilty of manslaughter. But he would be guilty of no crime if death was caused by a mere error in judgment.

Sec. 271: "Everyone is guilty of an indictable offence and liable to imprisonment for life who causes the death of any child which has not become a human being, in such a manner that he would have been guilty of murder if such a child had been born.

"No one is guilty of any offence who by means which he in good faith considers necessary for the preservation of the life of the mother of the child, causes the death of any such child before or during its birth."

Sec. 272: "Every one is guilty of an indictable offence and liable to imprisonment for life, who, with intent to procure miscarriage of any woman, whether she is or is not with child, unlawfully administers to her or causes to be taken by her any drug or other noxious thing, or unlawfully uses any instrument or other means whatsoever with the like intent."

Sec. 274: "Everyone is guilty of an indictable offence and liable to imprisonment for two years, who unlawfully supplies or procures any drug or other noxious thing, or any instrument or thing whatsoever, knowing that the same is intended to be unlawfully used or employed, with intent to procure the miscarriage of any woman, whether she is or is not with child."

In this connection one should, of course, appreciate the danger of giving a placebo in any case where miscarriage is desired. It might be exceedingly difficult to prove to a jury that such medication was without criminal intent, and that it was not the actual cause of the miscarriage.

COMPENSATION.

In England, before the passage of the "Medical Act" (1853), a physician could not, as a general rule, recover for his professional services in attending or prescribing for a patient.

This rule seems to have been founded upon the general custom of the profession not to charge for professional services, the physician being presumed to practice in the expectation of an honorarium, not of remuneration. He could, however, enter into a special agreement for the payment of his fee, and where such an agreement was made he was entitled to recover.

Surgeons, however, were allowed to bring action to recover for medicines and attendance.

The Medical Act provided "that a physician registered in accordance with its requirements may recover for his services, even under an implied contract, unless restrained by a by-law of the college of physicians." At present, an action by a physician on account for professional services rendered is governed by the same limitations which apply to accounts generally.

To entitle a physician to maintain an action against a person to recover for professional services rendered a third person, he must show a promise by the defendant, either express or implied, to pay therefor. Parents are of course held liable for services rendered minor children, and husbands for wives.

In general the physician is held to be the most competent judge as to the number of professional visits that should be made.

In cases where there is difference of opinion between physician and patient as to the value of services rendered it

is usual for the court to take into consideration the average of fees received under like circumstances in the same or similar localities, where it is customary for fees to vary according to the financial condition of the patient, the court will, as a rule, uphold such variation.

MALPRACTICE.

Malpractice is defined as bad or unskillful practice on the part of a medical attendant, whereby the results are such as to injure the health of the patient or destroy his life.

The administration of medicine or the performance of an operation which the practitioner knows or expects will result in damage to the patient's health, needlessly endanger his life, or cause his death, is defined as wilful malpractice, while negligent malpractice includes those instances in which a criminal object or intention is absent, but in which there is gross negligence, or failure to render that attention to the patient which the exigencies of his illness require.

The surgeon who undertakes to perform an operation assumes an obligation which, though only implied, has all the force of a formal contract drawn and signed in the presence of witnesses; and he is bound to employ a reasonable skill, and care and judgment in the exercise of his skill, and in the application of the principles to which allusion has been made.

While the surgeon is bound to give his patients the benefit of his best judgment, he is not liable for a mere error of judgment, unless it can be shown that the latter is so gross as to be inconsistent with reasonable care, skill and diligence.

The mere employment of a surgeon does not in the legal sense imply a contract to cure; the fact that he at

tends for a fee simply implies that he shall exercise care, skill and diligence.

He is not bound to bestow an equal amount of time or degree of attention and skill upon all who come under his care.

He is not required to use the highest order of care, skill and diligence, but the average possessed by the members of the profession in good standing in similar localities, and he is not liable for an honest mistake or error of judgment in making a diagnosis or prescribing treatment in any case where there is ground for reasonable doubt about either.

In the case of *James vs. Crockett* "In an action against a surgeon for not exercising ordinary care and skill in treating the plaintiff for an injury to his arm caused by his being accidentally thrown from his sleigh, the learned judge who tried the case nonsuited the plaintiff on the ground that as neither the plaintiff nor any of his witnesses was able to say that the arm was dislocated as a result of the accident, and, as both the defendant and another surgeon who was called in by the defendant and examined the arm three weeks after the accident swore that it was not dislocated, and, as the dislocation which was sworn to exist a year and nine months after the accident by a third surgeon whom the plaintiff consulted, which was admitted to exist at the time of the trial, more than three years after the accident, might have been the result of disease which was shown by the evidence of several expert witnesses, there was no evidence to leave to the jury upon which they could properly find a verdict for the plaintiff.

"Held by the court that the nonsuit was right, and that even if the dislocation was the result of the accident, the mere fact that the defendant did not discover it and treat the plain-

tiff accordingly was not of itself evidence of want of ordinary care and skill on the part of the defendant."

Everyone should insist upon having medical assistance in all cases of fracture and dislocation when procuring assistance is at all practical. It is that class of cases, giving rise as they may to visible deformities and impaired function, that is most apt to result in malpractice suits.

Where a practitioner feels that in the treatment of any given case it is necessary to depart from ordinary procedure he should first have consent from the patient's relatives and consultant's support.

Brown reports the case of a physician who was indicted on the charge of obtaining money under false pretences as a result of erroneous ideas as to the scope of what has been termed "suggestive therapeutics."

A woman who had been under the care of a number of physicians for some time, going first to one and then to another, decided to make another change and called in the man in question.

After going into her history, perhaps realizing that his predecessors had done all that was possible in a strictly medical way, he decided that hers was a good case for suggestion, and to this end informed her that she had a tumour, which it would be necessary for him to remove.

The patient consented and was removed to a hospital for the operation. As an endometritis existed the uterus was curetted, and, after the effects of the anæsthetic had disappeared, the patient was informed that the operation was successful. The attending physician reported that the recovery was rapid and that the patient had fully recovered from all pre-existing symptoms.

After a time the patient asked to be shown the tumour which had been removed. Several excuses were offered, but the patient was persistent: so, to continue the suggestion, the woman was shown a piece of beef so arranged as to resemble a tumour. In some manner it was suggested that a section be made and studied by a pathologist to ascertain the nature of the growth. This suggestion was acted upon and he "tumour" was sent to a well known man for examination, with the result that criminal proceedings were begun against the too ardent advocate of suggestion.

The fact that a practitioner renders services gratuitously does not *affect his duty to use reasonable care, skill and diligence*. In fact, failure on the part of a surgeon to render a bill or make some claim for compensation for the treatment of a case, might, in an action for malpractice, be urged with great force as in the nature of an admission of neglect—as evidence of a consciousness that he was not entitled to pay for his services.

Failure to make a proper diagnosis through want of the requisite degree of care, skill and diligence, for to give proper and necessary instructions to the patient or his attendants regarding the treatment, will render the physician liable for injury resulting therefrom.

Where injury—or the death of the patient—results from the negligence of the practitioner in writing an erroneous prescription, the physician and druggist are both liable.

It lies entirely with the physician to decide whether or not he will undertake the treatment of a case. In fact, some courts have gone so far as to say that he cannot be held liable for the death of a person resulting from his refusal to render medical assistance, even though he had been his

family physician and no other physician was procurable." This is certainly opposed to the popular opinion that a physician must respond whenever called upon.

But, having undertaken treatment he can only be released by the recovery or death of the patient; his discharge by the patient; or by his withdrawal after giving sufficient notice to allow of the services of another being retained.

A physician should hesitate in attending a patient when, having been summoned by a third party, he finds the patient unwilling to accept of his services.

Abbott reports a case where "a lady became suspicious that a housemaid in her employ had become pregnant, taxed her with it, and gave her notice of dismissal. She denied it. The lady sent for her family physician and ordered the girl to go to her room and submit to an examination. The girl protested, but went to the room followed by the physician. She objected to each of the doctor's requirements, as to removing her clothing, etc. However, she obeyed, remonstrating all the while, and the usual examination was made, resulting in the doctor being satisfied that the charge was groundless. But the mistress dismissed her notwithstanding.

"A law suit was brought on behalf of the girl against the physician for damages for assault. The case was several times discussed in court, with the final result in the physician's favor.

"The court considered that although the girl remonstrated, yet, as she went to her room, undressed, and lay down to be examined, all without being forced, the examination did not take place in a legal sense without her consent. It was a case of reluctance to

arbitrary wrongful command, as distinguished from a forcible compulsion which she was powerless to resist."

A physician who accepts the assistance of a non-medical person is held liable for the consequences.

A case is reported "in which a physician was assessed damages for allowing a non-medical man to be present and render slight assistance at an obstetrical case: notwithstanding the fact that the physician showed circumstances required his being accompanied by the man in question and that there was no other protection from the prevailing storm than the room in which the woman was confined."

An anæsthetic should not be administered without an assistant except in emergency, when the operator is compelled to accept the services of a non-professional person, he must take the entire responsibility of the administration. When the assistant is a regularly qualified practitioner, the responsibility should be shared by both.

When the anæsthetics are administered to female patients one should insist that witnesses be present.

In cases arising out of the administration of anæsthetics the surgeon will be protected if it can be shown that the use of the anæsthetic was necessary, that it was the proper anæsthetic for that particular case, that a watchful care was exercised during the administration, and that the usual restoratives were at hand and intelligently applied if required.

The elements of pecuniary damages in cases of malpractice, are classified as—

1. Loss of time and labour arising from the injury sustained by the malpractice.

2. The reasonable expenses for surgical, medical, and other attendance.

3. Diminished capacity to work at the trade or business of the injured party in consequence thereof.

4. Bodily pain and mental anguish.

Where the death of a person results from the criminal negligence of the practitioner in the treatment of the case, the latter is guilty of manslaughter. Criminal negligence is largely a matter of degree and cannot be precisely defined, but it is held to exist where the physician or surgeon exhibits gross incompetency or inattention or indifference to the patient's safety, arising from gross ignorance of the science of medicine or surgery or of the effect of the remedies used, or through gross negligence in the application and selection of remedies, and lack of proper skill in the use of instruments, or through failure to give proper instructions to the patient as to the use of the medicine.

The consent of the patient to an operation is not a good defence in an action for manslaughter unless the operation was performed with due care and skill.

Gentlemen, in all this there is nothing new or original and it is only with the idea of recalling to the profession each one's legal responsibilities that I have introduced this subject.

May no one of us have the experience of the man of whom Brougham writes—

"Who found law dear,
And left it cheap."

NOTES ON GENERAL PARESIS.

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(Read before the St. John Medical Society, December 1st, 1909)

ACCORDING to high authority the association of symptoms of mental enfeeblement with certain physical signs and a history of syphilitic infection leads to a definite diagnosis of general paresis.

Chief among these physical signs are inequality or inactivity of the pupils, abnormal knee-joints and speech defects.

These are not well defined in the early stages of every case, and this is unfortunate, because it is in the beginning that the proper diagnosis is of momentous importance in order that the patient may be saved from himself and kept from those foolish acts which lead to business involvement or from outbreaks which bring shame and distress to his friends.

The prompt recognition of general paresis would avert much regrettable conduct.

Many state that the type of general paresis has changed greatly in the past twenty-five years, some saying that the so-called classical form of the disease should no longer be regarded as typical.

However, there yet occur many cases of the more familiar exalted type, though the demented and depressed forms seem to be growing more and more common. Even the grandiose delusions, when present, seem less pronounced than formerly and are more often tinged with painful ideas.

We are told that a history of syphilis, associated with mental deterioration, should arouse suspicion of paresis.

Fifteen years ago little was said of syphilis causing paresis. The pendulum has swung so far to-day, that there are those who say, "No syphilis, no paresis."

There is no doubt syphilis plays an important part in its etiology, but probably not the only one, nor can it be stated as yet what this role is; whether the actual cause, or simply a predisposing one in preparing the soil.

The disease is probably parasymphilitic, a late development of an infection antedating the paresis some fifteen or twenty years.

Through a score of years, if the syphilitic knows anything of medical science, must the dread of impending mental dissolution hang over him, to whom no one need preach, "be virtuous and you will be happy." The very worry of syphilis, or syphilophobia, may tend to paresis.

Petersen says that among paretics, syphilis occurs seven to ten times more often than it does in other forms of insanity. Yet it would seem there must be more to it than syphilis, and that it is a disease of civilization as well as syphilisation.

It abounds most in congested districts. In some countries reeking with syphilis, paresis is uncommon.

Syphilis is old; paresis is new. A century ago paresis was a curio. Fifty years ago some prominent physicians had not met a case. With syphilis rampant, surely paresis, if it had existed, could not have gone unobserved.

Paresis is growing more common, but the same cannot be said of syphilis.

Why is there less syphilis and more paresis?

It is true that when we meet with paresis earlier than adult life, a luetic history is always to be found. We all know, however, that a history of syphilis is hard to get in many cases. It may have existed where we would least expect to find it. It may have been so mild as never to have been observed.

A patient may have had the disease and no one but himself and his physician know it.

We may therefore conclude that it is neither proven or unproven that syphilis always precedes paresis, and render the Scotch verdict.

While syphilis is a potent factor, probably other causes are necessary, or rather combination of causes. All the untoward influences have a share in it; all excesses and stress—but of course excess is always relative.

The three W's are closely connected: wine, women and worry. Alcohol is often cited as causative, especially by the French; but not now so much as at one time. In some probably the influence alcohol exerts is in applying the match to a tinder already oiled with syphilis.

In estimating the place of alcohol as a cause, care must be taken to differentiate between alcoholism which causes and that which is produced by paresis.

There is no more usual error than to assign as a cause of insanity what in reality are its earliest manifestations. When a man reaches middle life and only then takes to drink inordinately the alcoholic indulgence is then probably result rather than cause.

Hereditary tendency is not always absent, though less prominent than in other forms of mental disease.

Some will tell you paresis is due to brain defect existent from birth, but that is more easily said than proven.

Irregular and strenuous living and the shouldering of too heavy burdens are undoubtedly important factors.

Sexual excess which often results is not as potent as old text books state, for paresis does not flourish with the polygamous, or at the age when such excess is common, or among masturbators. We find the disease in sanguine and ambitious and usually married men about thirty-eight years of age, though the age limit seems to be undergoing reduction. It is much rarer in women and in them occurs at an earlier age. It is rare among vegetarians. Farmers do not have it, and the countryman has to leave his native sod and settle in city life to contract it.

Some claim the disease is bacterial in origin. Should this prove true, the question of early diagnosis and perhaps treatment would probably be simplified.

There are at least three recognized types of paresis: the expansive, the depressive, the demented. A circular form is sometimes met with, the patient being for one period exalted, for another melancholy. The fact that a circular type exists shows that the divisions are artificial.

The expansive form begins with morbid activity and moderate excitement. The patient becomes more enterprising, active and restless. New schemes occupy his mind, he is tireless and must continue his business far into the night, or get up at unseemly hours to satisfy his demand for work. Absorbed in his schemes he begins to neglect his family. He cannot bear opposition, becomes irritable, perhaps violently angry, is talkative, feels himself better and stronger than ever.

Sooner or later, his ideas become absurd and extravagant and his disordered judgment may lead him into ruinous acts, moral lapses or even crimes.

The fundamental weakness of mental capacity, childishness, or, as Clouston calls it, facility that is manifest, arouses the suspicion that we have to do *not* with an ordinary case of mania, but with general paresis. If now we find motor signs present we feel almost certain of the diagnosis.

In some cases, an increasing number, depression characterizes the disease throughout. This is usually of a hypochondriacal type with enlargement of ideas. His gloomy delusions are often absurd.

There is usually, however, a lack of proportion between the mental and bodily symptoms that makes us suspect paresis. If he puts on flesh and remains depressed it is paresis in all probability.

The patient will be miserable and full of complaints, yet will eat voraciously and sleep all night: whereas, in melancholia, the unhappy patient would more likely refuse his meals and lie awake. The emotional state of the depressed paretic changes more rapidly than if the case were one of melancholia.

One day he will complain, perhaps, that his stomach is gone or that he is of all men most miserable: the next day he may be cheerful and hopeful.

A number of paretics present few or no mental symptoms except dementia.

With this mental weakness the bodily symptoms may point unmistakably to paresis. Many women paretics belong to this group. There may be remissions in the course of the disease, which will lead the patients' friends to doubt our diagnosis.

In some cases the disease is arrested for long periods. I have known two paretics who lived twenty years. The great majority, however, go steadily from bad to worse, dying within two years.

It is the beginning of paresis that interests us most. It is often unrecognized, however, until well advanced. To diagnose the disease early is most important and is the task usually of the general practitioner. The patient himself and his family will be saved from much trouble. The maniac is not so dangerous at large as the paretic. One will disgrace his friends by debauchery foreign to him, another will fritter away money that his children will sorely need. A banker or man in some such responsible post may ruin scores who had put their trust in him.

The onset of paresis may be gradual or sudden, with or without warnings. Any form of mental, motor or sensory disorder may be the first symptom. Its early indications are ill-defined. As a rule, no disease begins more gradually. It may be years coming to a focus. A change for the worse in a man's moral character may first make you suspicious.

Often the sleeplessness, irritability, dull headaches, lassitude, etc., make you think of neurasthenia: but you should incline to paresis, if, in addition, you find loss of memory, failure to take advice, lapses of morals, or indifference to his business or family.

With such mental symptoms, if there appear some of the physical signs to be mentioned shortly, the diagnosis is usually clear.

The paretic, like any neurasthenic, may be conscious of his illness at first, but unlike the neurasthenic, soon loses consciousness of it. Even a paretic alienist would not realize his affliction, or should he diagnose his

own case he would soon forget it. Lack of self-knowledge is more marked in paresis than any other form of mental disorder.

The neurasthenic seeks the doctor himself and states his case, whereas the paretic is brought by his friends who detail his symptoms, the patient paying little or no attention to them.

The earliest mental signs of paresis are those of mild brain failure shown in change in disposition and character, which is the essential symptom of insanity of any kind. That is where the family physician has the advantage. Having known his patient for years he can detect changes unobserved by strangers.

The incipient paretic changes from a moral man to a devotee of Venus or Bacchus, or both. He loses interest in his business or may be unable to carry it on.

Among early symptoms in paresis are inaccuracy and poor work and that observed not by the patient, but by others. The clerk writes awkwardly or makes unaccustomed mistakes in figures, the artist fails to produce the fine effects he once did, the domestic becomes clumsy and breaks more than the average amount of dishes.

In paresis this is due to loss of precision. In neurasthenia, if observed, to fatigue. The neurasthenic tires quickly. His work is affected quantitatively, the paretic's qualitatively.

The paretic grows fatigued, but shows also feebleness and forgetfulness. He shows loss of co-ordination and forgets how. Neurasthenia is the fatigue neurosis. The neurasthenic worries because he can't work; not so the paretic, who will boast and say he never was better.

The appearance of the neurasthenic patient is less altered. His friends listen to his tale of woe impatiently.

No one had noted a change in him, least of all is it said that he neglects his business.

The neurasthenic is at his best in the evening, like many melancholy patients are. The paretic is best in the morning. He fatigues easily, and may show symptoms in the evening only, such as tremor and forgetfulness.

Little faults of memory are an early manifestation of paresis, especially for recent events. He makes errors in speech and writing, misspells words, omits them, or repeats himself. He loses and mislays things and makes unaccustomed mistakes. He fails to keep appointments and confuses people. In short, he does such things at thirty-five as we expect the senile to do.

The neurasthenic, on the other hand, laments loss of memory, but his very recital of his ills proves that false. The paretic fails in courtesy and is indifferent to niceties. He forgets, for example, his table manners. He is indifferent to others about him. He soon grows neglectful of dress, and becomes coarse. He cannot bear contradictions, becomes irritable, profane. The animal looms up in him. He eats and drinks inordinately. Most paretics are gourmands. He shows extravagance and buys useless articles or enormous quantities of things he has no use for. He may also steal and get into trouble, or into jail.

In short, crimes against morality and propriety are quite common in the initial stages of paresis, such as bigamy, exposure, etc. Sexual desire and power are often markedly increased early in the disease to be lost entirely later.

The utter shamelessness of the acts of the paretic render them more flagrant than those of any other form of

insanity. Moreover, they are unpremeditated and objectless.

The paretic is emotional, his feelings are easily stirred. He exaggerates both his joys and his sorrows. He is pleased with a feather and tickled with a straw. He weeps at nothing. Crying is very suggestive in a man of thirty-five.

Under excitement he soon loses control of himself. He is fickle and restless and his restlessness accounts for much of his strange conduct. He loses his affection for his wife and children.

From the first there is often a sense of well-being which may alternate with causeless despondency and tears. His cheerfulness is inconsistent with the disorder present.

There is a paretic manner which experience teaches us to recognize and leads us often into making a snap-diagnosis. There is something in the eyes, the expressionless face, the gestures, that stamps the paretic. It is a general indescribable change that shows he is no longer himself but tending away from himself.

Perhaps the most important caution that can be given is never to diagnose paresis from mental symptoms alone. We can never be certain of it till some physical signs are detected.

These are transient palsies, convulsions, either apoplectiform or epileptiform in type. disturbance of knee-jerks, disordered pupils and speech. Sometimes the somatic symptoms predominate and a diagnosis of locomotor ataxia is made, to be corrected when the mental symptoms become pronounced.

Nearly all cases of paresis have convulsions during the course of the disease and it is well to remember that a convulsion may be the first symptom to attract attention.

One of the most important of the physical signs is some disturbance of speech. This is present in the great majority of cases and very often quite early in the disease.

But it may be difficult to notice early and requires special tests to elicit, such as reading in a loud voice or repeating words containing labials and linguals such as "British Constitution," "Methodist Episcopal," or the time-honoured, "Round the rugged rocks the ragged rascal ran."

The defect may vary somewhat at different times and temporarily may be scarcely perceptible. It may be slight or very much in evidence.

In the beginning some difficulty in articulation may be evident, in the evenings only. It is usually drawling, slurring, tremulous in character, or hesitating and stumbling with elision of syllables, interchanging or repetition of them. Sometimes it seems a mixture. It is a very characteristic sign and very valuable.

Another motor disturbance often seen with the speech defect is the tremor especially noticeable about the tongue, lips, and sometimes the hands.

It is most evident while speaking. Tremors about the mouth are found early in paresis. The movement is irregular and jerky, and differs from the more rapid and regular tremor of alcohol, which disappears when the stimulant is withheld.

The tongue in paresis is protruded with a jerk and fine fibrillary quivering of the tongue points to this disease.

The characteristic hand-writing is at times early in appearance. It is marked by the repetition or omission of letters, syllables and words and not by the coarse tremor seen in the stroke.

Of almost equal value with speech defect, from a diagnostic point of view, are the changes of the pupils, which are often of very early appearance.

They become irregular in shape, unequal in size, pinhole, immobile, sluggish in reaction. They may be either contracted or enlarged and unequal: one or both affected.

The most important change for our purposes is the immobile or sluggish condition.

Think twice before contenting yourself with a diagnosis of neurasthenia in an adult, showing well-defined reflex pupillary disturbance.

This may antedate other symptoms of paresis by years. Myosis is the most common, the pupils fixed on exposure to light, and do not expand when eye is shaded. One pupil may be less reactive than the other. Bear in mind, of course, iritis and the effect of drugs.

The reflexes often present changes and of these the knee-jerks are most important in paresis. In 70% they are exaggerated, in 25% they are absent.

Early differential diagnosis is often exceedingly difficult, yet especially important. From the other psychoses to base the diagnosis of general paresis

on the mental symptoms alone would lead to error.

In general, it may be said that the more incongruous, strange and absurd the ideas, the greater the defect of memory, attention and judgment, the greater the change in moral conduct, the more we suspect paresis.

If, in addition, there are noticed the physical signs alluded to, our assurance is increased.

I have already taken enough of your time with fragmentary remarks on this wide subject and have only hung about its fringe.

To follow the disease through its course and detail the later symptoms would not be as useful to you, I feel, as notes about its first manifestations.

In most diseases early diagnosis is of utmost importance so that we may begin to combat it, but unfortunately, this does not apply to paresis to-day.

We are powerless to check the malady, however early observed.

But it is of great value to have an early diagnosis from an economic standpoint so that our patient may be surrounded with safeguards that may prevent him from squandering his finances in chimerical schemes or humiliating the members of his family by unseemly actions and immoral conduct.

[EDITOR'S NOTE—Owing to the failure of the necessary engraving to come to hand in time, we are not able to furnish the intended sketch this month under the caption of "Our Portrait Gallery."]

REPORT OF FIFTY CASES OF TYPHOID FEVER.

By J. A. SUTHERLAND, M. D.

Springhill, N. S.

OWING to lack of sewerage, we have had in Springhill, during the past season, a somewhat extensive epidemic of typhoid.

In the last four months of 1909, there were treated at the Springhill Cottage Hospital, fifty cases of enteric fever, and a brief review of these might be of interest to members of the profession who do not see much of this disease.

Most of the cases were of a mild type and required no medicines.

Patients were fed every two hours from four to six ounces of milk broth or strained gruel and in addition encouraged to drink water freely. When curds appeared in the stools or there was any tendency to tympanites or diarrhoea, albumen water and whiskey were substituted for milk. Sponge baths lasting 15 or 20 minutes were given every four hours during the day, ice water being used when the temperature was 102.3-5° or over. Almost all of the patients showed "rose spots"; in some cases only two or three could be found on the body, while in others there was a profuse outbreak of typical typhoid rash.

Only five cases out the fifty had an easily palpable spleen.

One patient had a genuine relapse after the temperature had been normal for several days. Five others had an intercurrent relapse, where the fever came down to about 100° and then ascended in the usual step-like manner.

The average stay in hospital was 34.4 days.

In the fifty cases we had four deaths; two from perforation, one from hæmorrhage and pneumonia,

and one from acute toxæmia, or what Osler calls the "grave form of typhoid."

This condition seemed to be more hopeless and unyielding to treatment than any other we had. The patient was a girl of 16 years, who had been ill about a week before admission and confined to bed three days of this time.

When brought in to hospital, patient was delirious—had symptoms of broncho-pneumonia and a fast weak pulse. Shortly after admission she began to lose control of the sphincters, developed muscular twitching of a severe nature and marked muscular rigidity, was sleepless and restless with muttering delirium. The girl took her nourishment well and was given cold sponges with vigorous rubbing of the skin to stimulate the circulation and help in the elimination of the toxin. She had ice applied to the head and was given strychnine gr. 1-30 to gr. 1-20 every four hours, thirty ounces of saline solution subcutaneously night and morning, whiskey and even oxygen, but nothing seemed to have any effect in stemming the tide of toxæmia, and patient grew gradually weaker and died suddenly on the fourth day after admission.

It is to be hoped that the serum treatment may be more successful in such cases.

Among the complications were five cases of hyperpyrexia, where the temperature remained over 104°, and cold sponges had little effect in reducing it. Here we had better results from using a cold pack to the abdomen. A flannel pad was wrung out of ice water and applied so as to cover the abdo-

men. This was changed every five minutes and repeated every hour, the patient being at the same time carefully watched for any signs of collapse.

This method can be used where there is not a movable tub and is very suitable for cases threatened with hæmorrhage or other abdominal trouble, since the application of the flannels causes no disturbance of the patient.

In contrast with above cases was one with a sub-normal temperature. A young man, ill for ten days, was removed from his home in the ambulance and shortly after admission developed signs of collapse—became cyanosed and almost pulseless. The temperature dropped from 103° to below 96° and remained subnormal for three days.

The patient was stimulated, given saline by rectum, had heat applied externally, and gradually rallied and recovered.

This case had no sign of hæmorrhage and very little of perforation and we supposed the patient had received a large dose of the typhoid toxin during his removal to hospital.

Other complications were: hæmorrhage, three cases, treated by ice to abdomen and bismuth and calcium chloride by mouth; pneumonia, five cases, three of which were typical lobar consolidations occurring at onset of the fever and disappearing without crises; pregnancy complicating typhoid occurred twice in the series. In both women we had premature labor come on between seventh and eighth month and babies survived only a few days.

Perforation took place in three cases.

The first case was noticed on the fifth day of admission in a man who

had been ill for a week before coming to hospital. He was suddenly seized with very severe pain in the testicles. This was at first thought to be due to renal colic and patient was given morphia, thus disguising the symptoms. When the correct diagnosis was made, the patient was entirely too far gone to render operation advisable. The post-mortem revealed a small round punched out ulcer in small intestine.

Case two was a woman, who, on the ninth night after admission, complained suddenly of pain on left side of abdomen, just under the costal margin. Owing to a midwifery case, I did not see the patient until twelve hours afterwards, when she was evidently in a state of collapse. However, under b. eucaïne the abdomen was opened and a rather large punched out hole in the small intestine was found, that spouted fœcal matter on moving the gut, and a large quantity of fluid had escaped into the abdomen. Patient died six hours afterwards.

The third case, when seen on morning of the fourteenth day, seemed to be doing very well and showed no sign of tenderness in abdomen. About 1.30 p. m., the matron 'phoned that the patient, a young man, had just been seized with a sudden pain very similar to case one. The nurse was instructed to apply an ice bag over seat of pain and on examination an hour afterward, the man seemed to be resting fairly comfortably, the ice having almost entirely relieved the pain, but there was some unmistakable tenderness on right side of the belly and an indefinite feeling of resistance. There was no change in the pulse and no nausea, but a slight drop in temperature.

Drs. Murray and Wardrope were summoned and patient's friends notified of the suspected danger. After consultation we decided that the

symptoms justified an exploratory incision, chiefly on the ground that if perforation had taken place immediate operation would give the man a chance for recovery, but if we waited for more definite signs, it would be too late. These things took some time and patient was not placed on the table until five and a half hours after pain began.

The man was put on table with the upper part of the body well elevated, so as to secure drainage into the pelvis and as pulse still remained good he was given chloroform.

On opening the abdomen in middle line the intestines were found very red and inflamed with patches of lymph here and there, and a fœcal odour was easily recognized. We examined a number of coils of small intestine without finding a perforation, but felt from the collapsed condition of the gut that we were hot on the trail. The intestine was then replaced and the cæcum found together with a very red and distended appendix, which it was thought well to remove.

The small gut was then followed up from the cæcum and about eighteen inches from the latter we found a small perforation, just in the centre of an ulcer about as large as a sixpence and easily recognized through the intestinal wall.

The perforation and ulcer were turned in by a double row of fine cat-gut sutures. A large drainage tube was inserted at lower angle of wound down to the bottom of the pelvis, and the wound closed up as quickly as pos-

sible without mopping or washing of the intestines.

After drawing off through the drainage tube several ounces of very offensive fluid, with a sterilized catheter attached to a syringe, patient was put to bed, taking care to still keep shoulders well elevated. The patient stood the operation very well and got along with practically no bad symptoms. Owing to the infected condition of the bowel, we gave him a pint of saline solution by rectum every four hours and it was almost all retained.

The fluid, drawn at intervals from the tube, was at first very foul smelling, but at the end of about twenty hours was entirely free from odour and had practically ceased to collect and the tube itself was removed a few hours later. The patient's temperature was subnormal for two days after operation when fever returned and the disease ran a regular course without any unusual symptoms, except several small hæmorrhages, and the man was able to go home on New Year's day after a stay of 40 days in hospital.

One is not justified in drawing any general conclusions from three cases of perforation, but the pain in testicles in both male cases should be noted. In In Osler's "Modern Medicine," pain in the penis is mentioned as a symptom, but nothing is said of testicular pain.

It will also be seen that watchfulness on the part of the nurse in charge is very necessary, and our matron, Miss Newman, was particularly prompt in giving us warning of the change in these cases.

DEVELOPMENTAL ABNORMALITIES IN THE LOBATION OF THE LUNG, WITH NOTES ON A POST-MORTEM SPECIMEN.

By M. A. LINDSAY, B.Sc., M. B.

Senior R. M. O., Royal Southern Hospital, Liverpool.

REFERENCES to abnormal lobation of the lungs are relatively rare in medical literature. The absence of any practical clinical value associated with such observations is probably more responsible for these infrequent notices rather than the actual infrequency of such conditions. A definite developmental value, however, attaches to these cases and the specimen here described is of special interest seeing that in it are combined two distinct variations from the normal. While both of these are separately recognized forms of abnormality, I have found reference to but one case in which the combination has previously been observed.

Anatomists divide variation in the number of lobes into—

1. Those whose normal number has been decreased: (a) From deficiency of the lobes themselves; (b) From deficiency of the fissure which normally divide them.

2. Those whose normal number has been increased: (a) By the presence of accessory lobes; (b) By the presence of additional fissures.

Examples of class one are rare. Arrest of development may occur at various stages. In the case of monsters, as Rokitsky⁽¹⁾ points out, it may lead to complete absence or great deficiency of one or both lobes, which arrest may be so early that we can barely observe the lungs as small rounded bodies situate at the ends of the bronchi. This condition is generally due to contraction of the volume of the thorax, or to

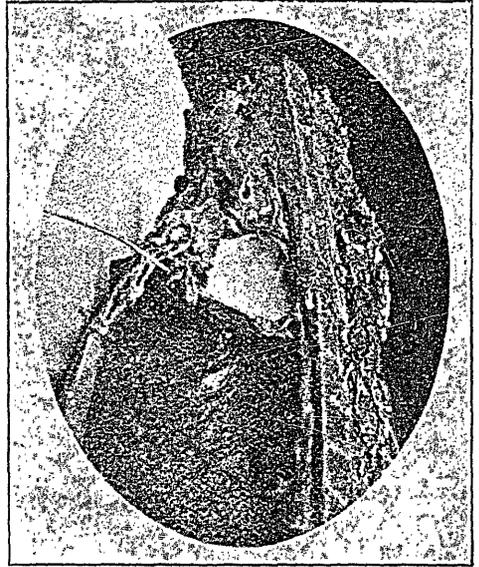


FIGURE 1.—Duplicate of Pleura containing Sup. Azygos Vein and forming an Accessory Azygos Lobe.

pressure exerted by the displacement of abdominal organs into the thorax, through absence of the diaphragm. Cases of atelectasis can not be included under this head. Pontif,⁽²⁾ in Virchow's Archives, records a case in which the right bronchus was connected with an ovoid body 5 lines by $3\frac{1}{2}$ by $2\frac{1}{2}$, imbedded in gelatinous tissue and filling the right half of the thorax.

Complete absence of lobation in definitely formed lungs is probably very rare if ever found through its homologue, is to be seen in the Orang with two lungs each existing as single lobes. Vesalius⁽³⁾ speaks of the human lungs being monolobed, a misconception, as



FIGURE 2.—View of Pleural Duplicature from below.

Sappey points out probably due to pleuritic adhesions.

In class two, cases with an excessive number of fissures are occasionally met with and are indeed probably the most common form of abnormality. They do not appear to present any regularity and lack the interest which attaches to those due to accessory lobes. Of this variety (2 a) there are two groups. In one which is of considerable developmental interest, discrete masses of pulmonary tissues are found, commonly between the diaphragm and the base of the left lung, but occasionally on the right side and even in the abdominal cavity. Attached to the œsophagus, aorta, or other mediastinal structure by a pedicle containing arteries, veins and nerves, but devoid of bronchi they are apparently quite functionless. Two cases were investigated by Vogel,⁽⁴⁾ and in each he found a deficiency in the bronchial tree. Simpson⁽⁵⁾ has described a case found while dissecting a foetus. In the second group of this class we have normally placed lung presenting an excessive number of lobes. These ab-

normalities are very definite in their position and are found in relation with (a) the lower internal surface of the right lower lobe and (b) the upper lobe almost always of the right side.

Both of these abnormalities were found post-mortem in the right lung of a coolie who died of dysentery. I am indebted to Dr. Lloyd Roberts for permission to publish the case. The specimen is to be presented to the museum of the Medical Institute, Liverpool.

The thorax was well formed. On raising the anterior wall the normal appearance was presented, but on proceeding to remove the thoracic contents the right lung appeared to be limited above and instead of extending into the root of the neck was shut off by the pleura which passed down behind it from the lateral wall of the thorax. The specimen was removed carefully. The right side of the thorax was then seen to be divided into two compartments by duplicature of the pleura which passed into the upper lobe dividing it into two portions, the upper of which was invisible till the lung was removed. This accessory lobe when distended measuring 4 inches in length by $2\frac{1}{2}$ inches in breadth at its widest part, extended from the angle between the root, and upper portion of the right lung immediately above the bronchus. Irregularly pyriform in shape it rested within a pouch of pleura upon the right side and front of the upper four dorsal vertebræ. The duplicature of the pleura which formed this pouch was continuous with the costal pleura externally along a line corresponding to the second, third and fourth ribs. It extended underneath the trachea and invested the right side of the œsophagus. In the free margin of the pleural duplicature was found the superior

azygos vein. The condition roughly resembled that of the falx cerebri, the two halves of the lung corresponding to the cerebral hemispheres, while the vena azygos superior represented the inferior longitudinal sinus.

Almost identical specimens were described by Prof. Chiene⁽⁶⁾ in 1889 and by Prof. Cleland⁽⁷⁾ in the same year; in fact in the description given above I found it necessary to modify but little of the original description of Prof. Chiene's specimen. Gruber⁽⁸⁾ reported two cases in 1870 and a number of others have since been described. The following explanation was put forward by Prof. Cleland.

"The great vena azygos, in its early development, passes upward to open into the transversely situated right duct of Cuvier. By the descent of the heart from cervical region into the thorax, the right duct of Cuvier becomes the vertically placed vena azygos superior and the great vena azygos is bent downwards till its terminal part becomes horizontal. What I believe then has taken place to produce the supernumary lobe is that there has been at a very early period a slight adhesion of the lung to the thoracic wall, or, much less probably, an undue curvature of the embryo, so that the vena azygos as it bent down to a position at right angles to its original direction, instead of slipping behind the pleura and lung, dragged down a fold of the former and deeply notched the latter."⁽⁹⁾

Wrisberg⁽¹⁰⁾ records a most interesting and unique case of an accessory lobe on the left side, produced by the left azygos vein, i. e., the superior intercostal, which preserved its foetal condition and opened into the left innominate vein.

The second form of abnormality referred to above was also represented

in this lung. It consisted of a lobule on the internal lower surface of the right lower lobe, which projected inwards and backwards. Its length when distended was $2\frac{1}{4}$ inches and at its base it was two inches across. It lay in a close apposition to the inferior surface of the lung, but the adjacent surfaces were covered by pleura and it could not be regarded as an artifact. In its relationship it agreed with a form of abnormality which has been frequently described and which is normally present in certain quadrupeds, e. g., the kangaroo, porcupine and bear and may be met also in more familiar animals, horses, sheep and dogs. The presence in mammalian quadrupeds is explained without difficulty. In these animals the thorax is relatively long and owing to its length there is a space between the pericardium and the diaphragm, these structures being connected only by reflections of the pleura. Considerable mobility is thus given to the pericardium and the weight of the heart drags it down, so that the long axis of the heart becomes vertical or antero-pos-



FIGURE 3.—Lung from above showing Azygos Lobe.

terior, this position being the more easy from the great antero-posterior diameter of the thorax. A distinct space is thus left between the pericardium and the spine and into this space the right pleura projects forming a cul-de-sac in which the extra lobe under consideration develops. In front of the neck of the sac is the inferior vena cava. Various names have been given to this lobe : Lobulus impar (Owen), Cardiac lobe, Lobulus azygos (Owen), Lobus accessoire (Duvernoy). Dr. Allen, of Glas-

Alister⁽¹¹⁾ says that it is not found in anthropoids. In man it is practically always absent, but the bronchus corresponding to it persists as a branch of the main bronchial stem as it traverses the lower lobe. This branch has been called the cardiac bronchus.

In the human subject it has generally been noted that when this abnormal lobus cavæ was present there was a diminution of the normal extent of attachment between pericardium and diaphragm. This approximates to the normal condition found in quadrupeds

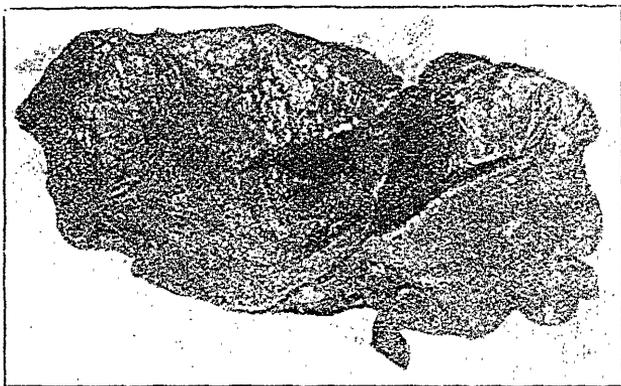


FIGURE 4.—Base of Right Lung showing Caval Lobe.

gow, has suggested the name, Lobulus venæ cavæ, or the caval lobe, thus indicating the structure which separated it from the rest of the lung and distinguishing it from the lobe already described, which from its relationship to the vena azygos is better entitled to the name azygos lobe. It is, however, by the name, azygos lobe, that Cunningham described it in his text book. Though present in many mammals it becomes less marked as they tend to assume the erect position, and Mac-

and almost certainly has a distinct relation to the presence of the abnormality. Unfortunately in this case, these relations were not ascertained.

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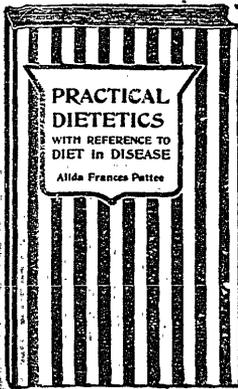
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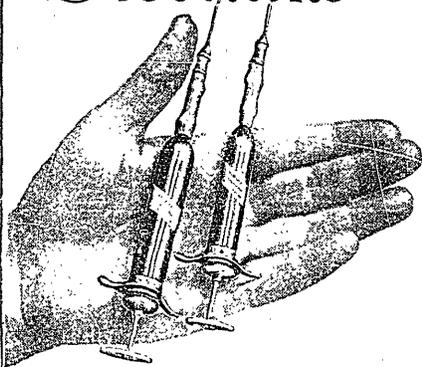
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