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The Canada Lancet

VOL. LIII. **TORONTO, SEPTEMBER, 1919** No. 1

EDITORIAL

CANCER IS INCREASING.

Cancer, probably the most dreaded of all diseases, is on the increase in America and throughout the world in spite of the fact that it is curable if treated early, says the United States Public Health Service. In its death toll in the United States cancer already ranks among tuberculosis, pneumonia, heart disease and diseases of the kidney, and it is much more feared than any of these. This is because of the ignorance of the public, the difficulty of detecting a cancer in its early stages and the fact that when it has reached the recognizable stage it has gone beyond the curable stage.

The medical world to-day believes that work for the control of cancer should be largely similar to that so successfully carried on in tuberculosis; that is, it should consist mainly in widespread education of the general public to recognize cancer in its precancerous state, it should train the people at the first alarm to seek the advice of a competent physician, and it should keep the public freely advised of the latest scientific knowledge concerning cancer, its causes, prevention and cure.

The first and most important requirement in such a campaign of education is that the public change its viewpoint. The United States Census Bureau for 1917 gave a total of 61,452 deaths from cancer as compared with 112,821 from pneumonia, 110,285 from tuberculosis, 115,337 from heart disease and 80,912 from kidney diseases. So it will be readily seen that cancer already ranks among the leading causes of death in this country.

Cancer is apparently increasing. The recorded death rate shows about two and one-half per cent. more cases every year. It has risen from 62.9 deaths per 100,000 of population in 1900 to 81.6 in 1917. Some of this increase is unquestionably due to an improvement in recording and

gathering vital statistics and to better diagnosis, but it is generally believed that these factors do not alone account for the increase.

Cancer, if discovered early and treated immediately by a competent physician and surgeon, is now regarded as a curable disease. Unfortunately the early discovery is difficult. Unlike almost any other disease its first attack is usually painless, and often, therefore, before the disease is discovered it has reached the stage where a major operation is necessary and the chances of cure have been greatly reduced, if not entirely lost. Another unfortunate circumstance is that in many cases when a person realizes he has cancer he fails to seek the best medical treatment. Advertising quacks and patent medicines, claiming phenomenal cures, loom up like a last ray of hope to the afflicted. As a matter of fact their treatment invariably aggravates instead of helping and when competent physicians are finally consulted the case is really beyond the hope of recovery, or arrest.

The belief that cancer is contagious has caused untold suffering and occasionally cruel neglect of the unfortunate sufferers. So far as it has been possible for scientists to learn there is no germ capable of causing cancer in human being or animals. In communities where the cancer prevalence is higher than in others it has invariably been traced to the fact that most of the young people had left the community. Since cancer is a disease of middle age the higher rate was to be expected. There is no case on record in which either an operating surgeon, or nurse, has contracted cancer from coming into contact with it, even after years of work exclusively in this field.

Another popular myth that seems to be pretty well exploded is that cancer is hereditary. No argument could be more convincing than the way life insurance companies look at this aspect of the disease from a business point of view. In deciding whether a person is a "good risk" these companies disregard evidence that cancer occurred in one or both parents, or in other ancestors. Their carefully-kept statistics covering many years prove that the person to be insured will not necessarily contract the disease. Indeed the insurance companies say there is no cause for apprehension even if both parents died of cancer. The most that could be fairly argued is that people whose families seem particularly susceptible to cancer should well inform themselves with regard to early symptoms and be on the alert for the first danger signal.

The tissues of the body, the muscles, the glands, the bones, are each composed of a very large number of very tiny cells, which may be compared to the bricks in a building, and they are held together by a material which may be compared with mortar. However, the body cells are alive, constantly growing and dying off, according to certain laws which we do

not completely understand. Sometimes these cells begin to grow and develop along lines which are not in harmony with the usual order. A little group of the cells forms a lawless colony, which constitutes an unhealthy, growing spot in the body. This may occur on the skin, in the breast, stomach, throat, or in any part of the body. Frequently they form a little hard lump which can easily be detected by touching it and which can very easily be removed by the physician. If this mass is not removed at once it usually continues to grow and to branch off into the surrounding tissues. This penetration marks the difference, the fatal line between the benign or harmless growths like warts, and malignant growths or cancers. Finally a large mass is formed and minute portions become detached and are carried to other parts of the body. When ordinary cells become detached and get out of place they usually die. Cancer cells, on the other hand, have such a power of survival they continue to grow wherever they are deposited and new cancers are the result.

Cancer often arises after continued, long irritation of various kinds and in and about benign growths, or ulcerations. Cancer of the lip and mouth has been known to come from burns, from pipe stems, from constant irritation from bad teeth and among East Indian races from chewing the betel nut. Cancer of the external abdomen in the natives of Kashmir, never observed among other races, arises from burns from kangri baskets of live coals which these mountaineers wear as a kind of warming pan. Cancer of the oesophagus is observed in the Chinamen who eat their rice too hot, while it is absent in the women who eat their rice cold at a "second table".

Women, unfortunately, are most susceptible to cancer. Between the ages of thirty-five and forty-three three times as many women as men die of cancer, and between forty-five and fifty twice as many die. They should, therefore, be especially educated to recognize the first signs of a benign growth and consult a physician at once. Persistent ulcerations, cracks and sores, warts, moles, or birthmarks which change in appearance, or grow larger, should be removed. All forms of chronic irritation should be prevented.

While no one in particular can be said to be susceptible to cancer it can truthfully be said that so far as is known no one is immune to it and statistics leave no room to doubt it is on the increase. The time has come when the general public should be educated as thoroughly as in the nation-wide campaign for the control of tuberculosis.

To aid in this work the United States Public Health Service has carefully prepared a neat, pocket-sized booklet, "Cancer, Facts Which

Every Adult Should Know", written in lay terms. This book will be forwarded on application to the Public Health Service, Washington.

DOCTORS AND THE TEMPERANCE ACT.

The position in which The Ontario Temperance Act has placed the medical profession is not an enviable nor a desirable one. It is safe to state that ninety-nine per cent. of the members of the Ontario medical profession object to being converted into legal bar-tenders for the people of the province; and would most gladly welcome such amendment to the Act as would enable the people to secure liquor in some other way than by a doctor's order.

In the ordinary discharge of his duties every practitioner encounters cases of sickness where, in his judgment, alcoholic stimulants would be useful; and, accordingly, prescribes such kind and amount as he thinks will suit the patient's condition. To this there can be no objection, nor is there any need for legislation. Alcohol is an article that may be ordered by the medical attendant, as he orders quinine, and comes within his legal right to do so, because he is a registered medical practitioner.

But the Ontario Temperance Act has created a new condition of affairs. It has laid down the rule of procedure in the purchase of liquor to the effect that the purchaser must first obtain a doctor's order. This has had the effect of sending to the offices of the medical profession all those who wish to secure some liquor. In the vast majority of these cases the applicants for these orders have already diagnosed their own ailments, and concluded what is the proper treatment, namely, a bottle of whiskey, or gin, etc. Further, very few of these applicants ask for, or desire, any other prescription or advice. They are applicants for alcoholic stimulants only.

In order to secure an order they have formulated in their minds some story to tell the doctors. They come to the conclusion that they are not sleeping, or that they have lost their appetite, or that they have become rheumatic. They do not come and state frankly that they wish to have some liquor in their houses because they like it, or because they expect some friends. All this begets a wholesale system of hypocracy. though some of the applicants are quite genuine and honest. As a result of this state of affairs most medical practitioners have often had to refuse these applicants; and, in every instance, offence is given.

The law that lays down the rule that the medical profession alone has the right to order liquor, also creates a Board of License Commissioners, the members of which are laymen; and are not supposed to know anything about the treatment of disease. Nevertheless the doctor has to set forth the fact that the liquor is prescribed for a certain disease or

ailment. This we hold to be absolutely wrong. No law should compel a doctor to set forth in the prescription the nature of the disease from which the patient suffers. It is quite different from the mentioning of the disease in the notification of some infectious case, or naming the disease in the death certificate.

But the very law that states that the medical profession alone has the power to order liquor, also places the whole profession under suspicion of wrong doing and has provided heavy penalties. It is an open secret that "spotters" have camped on the footsteps of the medical profession, making every effort to secure a conviction. That there are members of the medical profession who avail themselves of the Act in order to make money, is greatly to be regretted; but no Act should place such temptations in their way, and, thereby, to some extent discredit the entire profession.

In conversation with an eminent lawyer a short time ago, we were informed that it was not necessary that the applicant for an order should be actually ailing. All that was required was that the doctor should be of the opinion that stimulants would benefit the applicant whether on account of sickness, weakness, age, or any reason such as would induce him to prescribe or give advice were the person to consult him in the ordinary way.

The law is entirely silent on how many orders a day a doctor may issue; and, yet, if a doctor should issue ten a day for some time he would most likely be placed under suspicion,and, perhaps, called to account, Now, here, let it be remarked that there are very varied views on the use of alcoholic stimulants. Let us give an example. The later Sir Victor Horsley was of the opinion that alcoholic stimulants filled no useful place in the pharmacopœia; while the late Sir William Broadbent took a very different view, and regarded alcoholic stimulants as being a most valuable remedy. Apply this and what have you? Two doctors doing about the same amount of practice differ widely as to the number of orders they give out; and both honest, and both are capable. Must one of these be set down as a bartender for hire?

It goes without saying that every doctor who has tried to live up to the meaning of the Act, has refused many applicants, and sometimes old clients. This has caused a good deal of ill-feeling, and sometimes the loss of patients. But such examples as this are common. In many places there are those who live up to the law, and there is one who is ever ready to issue orders. Just see how this would work out in the case of a place with say three or four doctors?

It seems that the time is coming when the medical profession will have to take a stand in this matter. Our opinion is that the proper stand

is to refuse all and every applicant for stimulants; and only write such prescriptions for them as may be called for in the regular order of practice. This would force a solution of the question, and compel the Government to find some other, and better way than the present one of making one of the noblest professions, one of the lowest, namely, bartenders.

We have been told from high authority that the medical profession can best judge when persons should have liquor. This is true; and, in the usual routine of practice, doctors order liquor as occasion for its use arises. But this is miles and miles away from making the medical profession the custodians over the entire supply of all sorts of stimulants in the province; and placing that profession in the position of complying with or refusing the requests of importuning people for a share of this stock of stimulants. We do not hesitate to assert that the medical profession should decline to be put in this position.

NOCTURNAL ENURESIS.

Thyroid gland is one of the most useful remedies for the control of bed-wetting in children (*American Medicine,* March, 1916). It is not an empirical remedy, for in every case where it is indicated there are other evidences of hypothyroidism.

Some years ago Leonard Williams (*Lancet,* May 1, 1909; *Polyclinic,* June, 1909; *Brit. Jour. Child. Dis.,* June, 1909; and *Med. Press and Circ.,* May 5, 1909) published papers giving abundant clinical proof of the value of this remedy. He very definitely connects nocturnal enuresis with thyroid insufficiency and shows that other evidences of this condition may be discovered, as a persistently subnormal temperature; a deficiency in height, weight, and often mental powers; abnormalities of the skin, and especially the hair, etc.

Small doses are best. Williams advises not more than ¼ grain three times a day to start with. Often this is sufficient. It may be continued for some weeks.

Since then a number of confirmatory reports have appeared, among them those of Firth (*Lancet,* Dec. 9, 1911, and McCready (*Penn Med. Jour.,* January, 1911). Firth reports 28 consecutitve cases treated with this remedy, of which 16 were cured and 12 did not improve. The initial daily dose was ¼ or ½ a grain, and it was given cautiously. The cases which Firth found responded best to this treatment were those in which the enuresis had persisted almost from birth and in which the children were backward. It has also been noted that nervous, excitable children, especially those who cry out in their sleep, have been very responsive to thyroid treatmetnt.—Therapeutic Notes.

ORIGINAL CONTRIBUTIONS

THE PUBLIC HEALTH NURSE

By Dr. S. Dana Hubbard,
Acting Director of Bureau of Public Health Nursing,
Department of Health, New York City.

A distinctly progressive step in preventive medicine was made when female trained nurses were substituted for male district medical inspectors.

Having been repeatedly held responsible for this innovation, and not without some reason, it is peculiarly fortunate that this opportunity is offered to present the results which have followed the changes made in New York City.

Prior to 1912 in the metropolitan district the field work of the division of contagious diseases was performed entirely by part time medical inspectors, but the constant desire to economize presented a problem which required careful consideration.

The requirements of the field worker consisted in:

As each item was considered carefully it was thought that the work was peculiarly and distinctly a woman's job.

If preventive mdicine was to progress only education was required, and what better place to start the program was there than the home, and who could get and hold the mother's ear better than another woman, particularly one having the training and adaptability.

Heretofore it was considered that the only person capable of imparting instruction in medical matters was of necessity a physician.

Field instructors were doctors, all part time men, paid the sum of $100 per month for a three-hour day's work. To cover the cases from seventeen to thirty inspections had to be made daily. Naturally, under such a plan, it was physically impossible to perform the necessary work of isolation and impart in the given time much of the needed instruction.

As a result violations of quarantine were frequent. Neighboring complaints were numerous, and contagious cases instead of reducing in number actually appeared to increase, even where cases were under supervision. It was obvious that the system was faulty. We were headed up-stream, but our progress was backward.

A change appeared to be necessary. We certainly could not do much worse, and there were possibilities that we might improve.

Accordingly on January 1st, 1913, a budget went into effect providing for district female trained nurses. A group was appointed and ap-

portioned to the several boroughs. A school of instruction, providing for one hour's work each morning before going on the district, was inaugurated, and it was remarkable how well the plan succeeded. Those employled were women of high type. They gave the human touch to the work. One of the first evidences of the change was noticed when complaints fell off, so that the clerks ordinarily assigned to entering, assigning, replying to, and making final disposition of complaints, found themselves with nothing to do.

Placards that under the old regime had to be renewed in seventy-five per cent. of the cases also were affected, and the renewals were less than ten per cent.

The economy was effected, and there resulted a larger field staff, with less salary expense, a reduction in clerical staff, and a saving in printed material (posters, letters, entry books, telephone service), with a full time instead of a part time service.

The female trained nurse had entered a new field, and had made good.

The district nurse acts as a father confessor, a physician in first aid cases, and as a friend of the family. She straightens out all sorts of tangles, whether domestic and within her province or not—her instructions being "Never leave a case until it is better than you found it." In fact all kinds of welfare work crosses her path, which covers many details, from personal hygiene and sanitation to matters economic—even helping the son, daughter, or parent when out of employment to secure positions.

The trained nurse in public health work is an educator. Whole families must be educated, not simply in bedside attention, but even in the principles of right living. Home visiting nurses are an important item in the public health regime.

Does all this pay? Of course it does. A trained nurse is paid $900 per annum ($75 per month), and is required to work a full day. A physically sound person can easily make from twelve to seventeen visits a day (or about four an hour), giving ample time and opportunity for home instruction. At some homes more time may have to be given, while at others considerably less is required.

The nurse, aside from her required duties, must give her attention to ventilation. It is extremely difficult to get most people to open their windows often enough and wide enough, particularly when illness is present. Home sanitation needs to be mentioned often and vigorously. Proper food requires attention. Water, both for drinking and bathing, requires careful consideration. Many other things, too numerous to mention, must be part of her daily program.

The aid of these faithful women elevates and improves the morale of the community, the best measure of their work being not in dollars and cents, nor in individual efficiency, nor in the reduced number of contagious diseases, but in comforting the ill and in the saving of lives, particularly those of infants and children.

The statement cannot be challenged that these women earn much more than their pay, also that in large measure the marked reduction in infant mortality may be ascribed to the work of the field nurses. There comes to these nurses as part of the recompense of their services the satisfaction of knowing they have been the means of increasing human happiness and individual contentment, that they have given assistance to those in distress, and that the work they are doing is in behalf of their fellowmen and for the general good of the community.

Taking all the factors into consideration, it is almost impossible to overestimate the value of the assistance rendered by these nurses to public health work.

Special Fields of Duty in Public Health Work

The Baby Health Station Nurse.

The School Health Nurse.

The District Health Nurse.

The Contagious Disease Hospital Nurse.

From this classification it will be seen that the public health nurse becomes in reality a specialist along certain lines.

There is a wide gap between the duties of the trained nurse in private or hospital practice and her responsibilities and activities in public health fields. One might be almost tempted to say that there is little in common between them.

It does not follow that a nurse who shows exceptional ability in the training school will display this same superiority in other fields of endeavor. The matter of selection and assignment is a specialty by itself.

The problem of the care of babies is one matter, of home instruction another, of isolation of contagion another—so that an effort is always made to select the nurse who is best fitted for the particular work to which she is assigned. Here it is that a large corps affords ample opportunity for change of services which with a small corps in a small community is lacking. The selection of the nurse has to be considered carefully to get an appointee who will measure up to full requirements and expectations.

The relation of the public health nurse to the public welfare work is one of special interest. The problem of keeping babies well is not through the instrumentality of the ordinary means found in a clinic or hospital,

but in the application of measures many of which are largely of a social nature and found only in the influence of the nurse's own personality.

The duties of the baby health station nurse require that she combat with all her strength those factors which are mainly responsible for the large and unnecessary waste and wreckage of infant and child life, i.e., poverty, superstition, ignorance, carelessness and even neglect.

The infant must have suitable food and at regular intervals, suitable clothing, warmth, and proper care. Without these essentials vitality is lowered, resulting in disease and perhaps death.

Baby welfare nurses must meet social and economic conditions which in many instances tax greatly their ingenuity, resourcefulness, judgment, tact, patience, temper, heart and pocket book. Few people have such an opportunity for looking into the lives and homes of other people as is afforded the nurse.

Over-crowding, improper housing, insanitary conditions, unemployment, alcoholism, illegitimacy, desertion, poverty, lack of fuel, even starvation itself, are often met by this employee. Conditions many of which not only disrupt families but separate bodies and souls.

Is it any wonder that the human side of this work indicates that women are best fitted for it? Few positions in public service require a broader humanitarian and social viewpoint. The contact of the nurse in the home is close and intimate and with cordial friendly cooperation the resultant is a saving of the lives of children. The job is not a sinecure. The position calls for active, intensive application, and often the hours are long, but the work finds sure and certain returns in it that is always a duty as well as a pleasure to be able to relieve want and suffering, especially of babies and little children.

The School Health Nurse

The work of the school health nurse is part of a very intricate whole, and this nurse should realize what her relation is to the school, to the child, to the community, as well as what aid she can give the public health authorities and the medical profession in preventing sickness and death.

The thirty-two different nationalities represented in our citizenry, with its ignorance, poverty and over-crowding, makes the supervision of the 1,000,000 school children a very necessary and important undertaking. The efficiency of the work naturally depends upon the care and thoroughness with which the nurse performs her duty. Failure or carelessness defrauds the city and is destructive owing to its effect on the life, health and comfort of her charges—the children. The school health nurse should always put forward the best that is in her in behalf of these little ones.

School children require patience, kindliness, and the best of care, and when these are given, the results are so far-reaching that they cannot be measured in figures.

The work of the school nurse is mainly along preventive lines, yet at times she is most helpful in rendering first aid, which under the circumstances is most opportune.

Children being most susceptible to sense impressions, a school health nurse must always remember that orderliness, tidiness and cleanliness cannot be taught children by pictures, lectures and talks, but must be visualized—an untidy nurse and a disorderly room are antagonistic to the best results.

The sight of a clean white apron, a neat table laid out with an orderly equipment does more to impress children with what it means to be neat and cleanly than an instructions or scolding. The sight of a tooth brush and the demonstration of how to use it does more to impress a child's mind with the beauty of clean teeth than do all the handbills printed.

Putting the child's body in good working order is only a means toward an end. A clean healthy body goes with a clean healthy mind. The development of the body accompanies the development of the child's mind.

In the school the nurse is brought into contact with the strong, active healthy little bodies with normal instincts and needs, and must never fail to meet the demands made upon her for right guidance and proper direction.

Children are quick to see and feel what lies behind instructions. Right relations must be established early. In instructing children as to physical defects, it is not only very, very wrong, but improper as well, to scold either parent or child for such conditions.

What is in the mind of the child when he hears the school nurse admonishing him for not wearing his glasses, or (when it interferes with play) for throwing away a neat bandage on a finger? Advise him about the use of these. Do it again and again. In fact, the plan with children, like other pets, is reiteration, and reiteration *without irritation.*

Instruction to be helpful must never take the form of correction or scolding. It may not always mean gentleness and undue softness, but many weapons must be used in fighting ignorance.

The school nurse is concerned in helping people help themselves, and the making of self-respecting citizens is indeed a large part of this work. School children must never be made to feel that they are objects of charity.

The school health nurse must work out her own health code, and it must be an elevating one at all times.

The school health nurse is the connecting link between the school and the home. The following, in brief, constitutes a day's work for the nurse:

Morning Inspection. For the purpose of examining all children who have been absent from school for any unassigned cause.

All children referred by their teachers.

All children returning after previous exclusion.

Morning Treatments.—All children needing care and who are unable to have it.

All children suffering from favus, ringworm, scabies, impetigo, sore eyes, lice.

Trachoma cases must be referred for exclusion.

Instruct children daily of importance of individual towels, and wash cloths, use of tooth brush, individual drinking cups, and also not to exchange food, fruit or clothing.

Class Room Inspection.—Routine class room inspection should be made at the beginning of the term, repeated monthly (oftener when occasion demands) by nurse. During inspection note condition of hair, skin, eyes, hands, (and the general appearance.

Instruction.—Time not occupied with school clinics or inspections should be occupied in instructing children as to physical defects, giving tooth brush drills, post-operative breathing drills, speech defects drills, conducting health leagues, and in conferring with teachers.

Social service and home visits should also be part of the routine, as the nurses should be well known by the parents as she is by the teachers and pupils. Consultations with parents invited to the school should be frequent. Home visits are made where parents do not respond to the nurse's invitation. Home visits should include a careful survey of conditions.

The Contagious Disease Hospital Nurse.

Contagious disease hospital nurses are more nearly like those working in private or general hospital work, the difference being shown in the aseptic operating room rather than in the general ward.

The prevention of cross infections, the care of infants suddenly taken away from their mothers and the training of children is in large measure the work of the nurse.

In the special wards where croup and pneumonia are treated more special attention is required on the part of the nurse than in ordinary surgical cases—the strain is intense and acute and the danger of infection ever present. The hours of duty, however, are of necessity shortened, and the surroundings of these nurses when off duty should be most pleasant in order to assist in their recuperation.

At the hospital may be found a large well aired parlor, a reading room with comfortable chairs and individual lamps, a well equipped library, a gymnasium with shower and plunge pool as fine as any in the city, while tennis courts and hand ball courts afford the athletically inclined ample opportunity for recreation.

In this brief outline of the duties of the Health Nurses employed by the Department of Health of New York City I have attempted to impress upon you the valuable service they are rendering and that through their efficiency, enthusiasm and devotion to those committed to their charge, not only is there an improvement in the physical condition of the children, but the results accomplished are enduring and will tend to the development of generations better equipped physically and mentally to bear a part in the solution of the economic problems which they will be called upon to deal with.

REMINISCENCES OF TWO EPOCHS—AN ÆSTHESIA AND ASPESIS*

By Stephen Smith, A. M., M. D., LL. D., New York.

THE development of an art is characterized by a succession of events each of which signifies progress. These events may, singly, appear unimportant, but, as Sir James Paget truthfully remarks, "Closely studied they are links in an endless chain of events leading to a higher development as we witness in the embryo." In this chain of vents there occasionally occurs one which far transcends others in the radical and fundamental changes which it effects in the practice of the art under review. It stands a beacon light which illumines with ever-increasing brilliancy the pathway of the humblest practiser. Such an event creates an epoch—"A point of time from which succeeding years are number" (Cent. Dict.).

Baas, the eminent historian of medicine, regards epochs as the essential features of the development of an art and from an educational viewpoint urges that they be studied by every practiser. Impressively he remarks

"An acquaintance with the views and knowledge of epochs submerged in the shoreless ocean of time, frees the mind from the fetters and currents of the day with its often oppressive restraints, widens the horizon for a glance into the past, and an insight into the present of human activity, the view for a comprehension of the ideas which guided

*(Selected from John Hopkins Hospital Bulletin, September, 1919.)

the earlier and more recent physicians, and gives on the other hand to our daily professional labor a high consecration."

Though two of the most remarkable epochs in the history of surgery —anæsthesia and asepsis—occurred within my personal experience, it is unfortunately true that with the profession at large the views and knowledge of these great events have long been submerged in the shoreless ocean of time.

This general ignorance of the great events in the recent history of surgery is due to the failure of the schools to include in their courses of instruction a well-devised system of teaching the "views and knowledge of epochs." No department of science has a more interesting and instructive history than medicine, inasmuch as every advance tends to the betterment of the race. My experience as a teacher for many years emphasized the fact that students are not only greatly interested in historical incidents connected with the subject, but that those incidents proved suggestive to the memory when the subject was recalled in actual practice in later life.

Deeply impressed with the truth and moral significance of the historian's sentiments and their quite general application, it has occurred to me that it would be peculiarly appropriate to the present occasion if I recalled some of my experiences and observations on the introduction of these two greatest epochs in the history of surgery.

ANÆSTHESIA.

October 16, 1846.

When I entered the office of Prof. Frank H. Hamilton, of Buffalo, New York, in May, 1847, as a student of medicine, anæsthesia was on trial. Though it bore the imprimature of the surgeons of the Massachusetts General Hospital, headed by the honored name of Dr. John C. Warren, several deaths had been reported during its use, which served to make conservative surgeons cautious. Prof. Hamilton was of that class and he resorted to anæsthesia only occasionally and in cases believed to be especially adapted to its use. This fact gave me ample opportunity to compare the old-time method with that promised by the new discovery.

The first operation without anæsthesia that I witnessed was so disquieting on account of the sufferings of the patient that I was nearly driven from the profession. Its cruelty was so shocking to my untrained nervous system that I begged to be excused from attending another operation, but the professor made merry of my sensitiveness, assuring me that the most successful surgeons had fainted at the first operation but that in the "long run" extreme sympathy for the patient made a

cautious and conservative operator. The case referred to illustrates the ordinary operative proceedings in hosiptal practice at that time:

The patient was a workman from a shop and was suffering from a strangulated hernia. No other preparation was made than to remove his exterior clothing and sponge the surface over the hernia. The surgeon came in haste, put on a hospital apron and urged haste in bringing the patient to the table. Several strong-armed attendants were selected to hold the patient if he made resistance. With a conspicuous display of the knife the surgeon made his first incision with lightning rapidity which was followed by the violent screams and struggles of the patient and a volley of oaths. It required several minutes to place him again in position and meantime the surgeon, with knife poised in the air, awaited nervously an interval when he could cut twice in the same place. A second incision intensified the shrieks and efforts of the patient to escape from the table. All was now indescribable confusion, but the attendants succeeded in overcoming the patient now exhausted by his struggles and shock and at length the exciting tragedy came to an end, with all parties completely exhausted.

That this is not an overdrawn description of every day operations in the great hospitals of the country I will quote a reliable author's experience, the patient being a woman:

She is cheered by kind words, and the information that it will soon be over. . . . . She is enjoined to be calm and to keep quiet and still. . . . . But of what avail are all her attempts at fortitude! At the first clear crisp cut of the scalpel, agonizing screams burst from her and with convulsive struggles she endeavors to leap from the table. But the force is nigh. Strong men throw themselves upon her and pinion her limbs. Shrieks upon shrieks make their horrible way into the stillness of the room until the heart of the boldest sinks in his bosom like a lump of lead. At lenth it is finished, and prostrated with pain, weak from her exertions and bruised by the violence used, she is borne from the amphitheatre to her bed in the ward to recover from exhaustion.

The screams and struggles of patients submitted to operation, which we then heard and witnessed, were but the echo down the ages of those heard when the primitive surgeon first applied the "chipped-knife" to human flesh to remove the broken fragment of a war missile. There were screams and struggles in the home of Moses when Zipporah, his high-brow Midianite wife "Took a flint and cut off the fore-skin of her son" (Ex. iv. 24). There were abundant screams and struggles in the Jewish families when "Joshua made himself knives of flint and circumcised the children of Israel" (Joshua v. 3).

Pain and suffering was regarded as the chief obstacle to success in operative surgery from the time of that first operation with the knife or flint. Even Hippocrates, in lofty phrase, expressed the prevailing sentiment: *Divinum est opus sedare dolorem.*

Two methods of mitigating suffering seem to have been suggested to primitive surgeons, *viz.*:

1. Celerity of operation to diminish the time of suffering, and,
2. The discovery of an agent which would safely cause insensibility.

Celerity of Operation.

Of these two methods the first was the most practical, as it involved no danger, and was, therefore, adopted at once. Successful celerity of operation required two conditions: (1) Such a variety of instruments as may be necessary to meet promptly every possible emergency; (2) Dexterity in the use of instruments. Fortunately the early Huns and Egyptians, by nature and training, were especially adapted to devise the instruments and use them deterously—conditions necessary to success in celerity of operation.

In the field of invention the oriental excelled. Centuries before the Christian Era we have descriptions of instruments in familiar use by Hindus and Egyptians which in perfection of finish and adaptation to special uses are equal to the "kit" of the modern surgeon. For example, the forceps devised to extract the fragments of the rude missiles employed in the tribal wars were thus described by a contemporary writer:

They ought to be about nine inches long; their mouths be respectively like those of a lion, tiger, wolf, hyena, bear, elephant, cat, hare, antelope, crow, heron, dog, jay, vulture, falcon, owl, kite, cock, crouch, the bee, rat, mouse or bullock. Each half must be united to the other by a nail of the form of a lentil seed being bent inwards at the handles like the elephant-driver's hook.

There were also the same great variety of probes and tubular instruments each being designed to meet a special emergency during the operation. The following directions in preparation for an operation illustrate the care exercised by the primitive surgeon to render a rapid operation safe:

A surgeon contemplating to operate. . . . should first have ready the following: blunt instruments (forceps, etc.) sharp instruments, potential cauteries, horns, catheters, leeches, a dry gourd, a cauterizing needle, stuffing materials, fat, milk, oil, string, board, bandage, honey, soothing decoctions, injections, lotions, fan, cold and warm water, a frying pan,

able, steady and attached servants. During the operation let the patient be seated, who has tagen very little food, offered sacrifices and made ablutions, with his face towards the East. The surgeon should stand with his face toward him and plunge his instrument after the proper incision until matter comes out, and withdraw it, avoiding vital parts, vessels, muscles, articulations, bones and arteries. . . . Boldness, rapidity of action, sharp instruments, operation without trembling, fear or doubt, are always praiseworthy of the surgeon.

As a "show-fad" dexterity in the use of instruments was at its climax when I entered the profession. At hospital clinics attended by student operators performed fantastic tricks with instruments often brandishing them in the air when about to make an incision. An amputation was a favorite occasion for these displays of dexterity. The Catlin, glittering for a moment above the head of the operator, was plunged through the limb and with one artistic sweep made the flaps or completed a circular motion. After several aerial gyrations the saw severed the bone as if driven by electricity. The fall of the amputated part was greeted with tumultuous applause by the excited students. The operator acknowledged the compliment with a formal bow. The clinics of these operators were as popular as theatrical performances and about as instructive.

Celerity of operation as I witnessed it, while accompishing litttle in the mitigation of the sufferings of the victims of operation, often had very serious features. Wounds of blood vessels and nerves, puncture of viscera and similar accidents not unfrequently occurred in the clinics of operators famous for the display of dexterity and celerity. The movement of a struggling patient at the moment the operator plunged his knife resulted in wounding the femoral artery. Puncture of the urinary bladder and intestines, division of important nerves and similar accidents were reported from clinics. There accidents were usually the interesting feature of the operations, as they tested the ability of the operator to meet the emergency. The accident itself did not reflect upon the operator's skill but was attributed to the unfortunate movement of the patient at that critical moment when the surgeon was to exhibit his dexterity. Then the tragedy that resulted in a coroner's inquest contributed to the reputation of the operator as a most skilful surgeon.

An Anæsthetic.

Allusions to the use of "pain-killing" agents are frequent in medical history from prehistoric periods. In general their discovery has been accidental as in the case of gases from the earth. More frequently the

narcotizing agent was found in vegetables, the poppy, the mandragora, belladonna, hyoscyamus, cannabis Indica, etc. Cutting operations without pain under the narcotizing effect of these vegetables are mentioned by many writers at different periods. Homer describes two operations in that picturesque style which suggests that he must have been present and witnessed them. He says:

"Machon was summoned to remove an arrow which was driven through the belt of Menelaus, King of Sparta; he extracted the arrow from the well-fitted belt, but while it was being extracted the sharp barbs were broken; then he loosed the variegated belt and the girdle beneath and the plated belt beneath, which the brass-workers had forged, when he preceived the wound where the bitter shaft had fallen; having sucked out the blood, he skilfully sprinkled on it soothing remedies.

Eurypylus wounded with an arrow in the thigh called upon Patroclus to remove it. Patroclus, laying him at length, cut out with a knife the bitter, sharp arrow from the thigh, and washed the black blood from it with warm water. Then he applied a bitter-pain-assuaging root, rubbing it between his hands, which checked all his pains; the wounded indeed dried up, the bleeding having ceased.

The following prescription for making the famous anæsthetic of Theodric (1278) illustrates the efforts to discover an anæsthetic:

Take of opium and the juice of unripe mulberry, of hyoscyamus, of the juice of the hemlock, of the juice of the leaves of the mandragora, of the juice of the wood ivy, of the juice of the forest mulberry, of the seeds of lettuce, of the seed of the burdock, which has large and round apples, and of the water-hemlock, which has large and round apples, each one ounce; mix the whole of these in a brazen vessel, and then in it place a new sponge, and let the whole boil, and as long as the sun on the dog-days, till it (the sponge) consumes it all, and let it be boiled away in it. As often as there is need of it, place this same sponge in warm water for one hour, and let it be applied to the nostrils till he who is to be operated on has fallen asleep and in this state let the operation be performed. When this is finished, in order to rouse him place another dipped in vinegar, frequently to his nose. Or let juice of the roots of fenigreek be squirted into his nostrils. Presently he awakens.

The story of the research and efforts to discover a reliable and safe anæsthetic does not differ from that attending the introduction of all great epochs. Repeatedly the discovery was announced and the prize seemed won, only to be followed by a disappointment the more depressing because so often repeated. Indeed, these disappointments had so

crystallized professional opinion against the possibility of discovering a safe and reliable anæsthetic that on the very eve of its announcement the most eminent surgical authority of the period, Velpeau, thus voiced the prevailing sentiment of the profession (1839):

To escape pain in surgical operations is a chimera which we are not entitled to look for in our day. A cutting instrument and pain in operative medicine are two words which never present themselves, the one without the other ,in the mind of patients, and its is necessary for us surgeons to admit their association.

It is creditable to the profession that the chief obstacle to an earlier discovery of a safe and reliable anæsthetic was the fear of fatal results in making the necessary tests on human subjects. Rice, author of the "Trials of a Public Benefactor," remarks:

"It is probably the deadly results which must have often ensued from their use, the long-continued depression which they exert upon the nervous system, the confirmed stupor and the congestions and other accidents which are so liable to follow, all conspired to prevent their use, or even examination."

The only interesting feature in the centuries of search for an anæsthetic relates to the incidents by which the inhalation of nitrous oxide gas (laughing-gas) led to the discovery of scientific anæsthetia. In 1799, Sir Humphrey Davy, then an assistant in the "Pneumatic Institution" of Dr. Beddoes, Penzance, England, experimented with nitrous oxide gas and described in a familiar way its exhilarating and intoxicating effects. He even used it for the relief of pain in the head and teeth and finally suggested its possible use in surgical operations:

As nitrous oxide in its extensive operations seems capable of destroying physical pain, it may probably be used with advantage in surgical operations in which no great effusion of blood takes place.

The suggestion of Davy was so natural that it is surprising that nearly half a century elapsed before the subject again attracted attention. though nitrous oxide (laughing-gas) was in popular use for amusement in social circles.

The circumstances attending the actual employment of nitrous oxide to allay the pain of a surgical operation not only fulfilled Davy's prediction, but gave to our country the great honor of discovering a safe and reliable anæsthetic and also of placing anæsthesia on a scientific basis.

Dr. Crawford Williamson Long (1815-1878) of Danielsville, Ga., a graduate of the medical department of the University of Pennsylvania,

was impressed, while attending an exhibition of "laughing-gas", with its power of causing a harmless delirium, and ventured to test its effects personally. In his performances under its influence he received a painful injury of his leg of which he was not conscious until he had recovered from the effects of the gas. Like Davy he became imbued with the idea that surgical operations might be performed without pain while a person was in this state of delirium. Long seems to have been a very unpretentious practiser of his profession in a small rural town quite remote from even the current medical topics. He engaged in general practice and performed all the surgical operations that came under his observation. In 1842 he first operated on a patient under the control of nitrous oxide and removed a tumor from the neck of a lady without pain. Subsequently he used this gas in his operations but did not think the method of sufficient importance to publish an account of it until the question of priority of discovery on an anæsthetic became the subject of Congressional inquiry on the petition of Dr. W. T. G. Morton, of Boston, 1847.

In 1844 nitrous oxide attracted the attention of Horace Wells, a dentist of Hartford, Conn., in the same manner it had Davy and Long, while being used as a "laughing-gas." Wells tested it by having a tooth extracted while under its influence and on returning to consciousness, exclaimed: "A new era in dentistry." He adopted it in practice and related his experience to Dr. W. T. G. Morton, a dentist of Boston and former partner in business. Morton was an enterprising young man who recognized the importance of the new treatment, if it really proved to be capable of accomplishing the objects claimed. He, therefore, thoroughly tested it and became convinced of its value in the practice of dentistry, the logical result of this conclusion being that it woud prove equally valuable in the field of operative surgery. To test this question by high authority Morton applied to Dr. John Collins Warren then at the head of the surgical staff of the Massachusetts General Hospital. The day fixed for a trial operation was October 16,1846. The operation was advertised widely by a notable gathering of the most distinguished members of the profession in Boston and vicinity was in attendance.

Prior to the date of the operation Morton had been advised by a chemist, Dr. Jackson, that sulphuric ether had the same effect as nitrous oxide and was more manageable. Accordingly Morton prepared to give this gas which occasioned a few minutes delay in his arrival at the hosiptal. This delay was construed by the skeptics in the audience as a complete failure of Morton to meet the test, and when he appeared a few minutes later he was greeted with derisive laughter. Even Dr.

Warren had apologetically informed the audience that he had little faith in the alleged anæsthetic.

The operation, the removal of a vascular tumor on the neck, was a complete success. A profound silence fell upon the witnesses of a great epoch in surgery as Dr. Warren declared in homely phrase, "Gentlemen! This is no humbug." This announcement, heard around the world, ushered into human history the great epoch—ANÆSTHESIA—freedom from pain in the practice of operative medicine.

The discovery of a safe and reliable anæsthetic seemed to cut the cords which restrained the progress of operative surgery and this branch of practice went forward in leaps and bounds.Medical periodicals were filled with descriptions of new, unheard of, and even unthinkable operations, and the clinics became interesting for the novelty of the operations and the perfection of details, now so much more carefully completed.

THE ANTISEPTIC PRINCIPLE.
1867.

But important as was the reform in the manual of the operations, it was painfully aparent that in the final summary of results the mortality of operated wounds had not diminished. The chief element of disaster, suppuration, still remained in full force and determined by its relative intensity the final result. Of this fact I had an opportunity for ample experience. On entering the Bellevue Hospital Resident Staff (1850) my duty as the junior member was to carry the "pus-pail," the receptacle into which the senior surgeons placed the pus-saturated dressings. Two and often three times daily he had to renew these dressings, each change attended by great suffering and exhaustion. I vividly recall our painful disappointment on witnessing the gradual failure of the vital power of patients with such an outflow of pus. Daily the visiting surgeon examined the pus to see if it was not becoming "laudable" and pressed iron tonics, but the final result was general infection.

From the time of Hipprocrates there were two schools of surgeons based on the question of the treatment of wounds with and without pus. Although pus was almost universally present in healing wounds, still there were occasional instances where the wound healed without any discharge, but remained dry throughout the process. This incident gave rise to two methods of treatment, the "dry" and the "wet", the former being our healing by "first intention", and the latter by suppuration or granulation (second intention). Through the intuitive genius of Hippocrate led him to teach healing by the "first intention", as the correct practice, he was violently opposed in the schools of Greece, and the "wet"

treatment prevailed, its advocates regarding it important even to apply irritating dressings when pus was not freely secreted. These two schools continued to our time, the "wet" method being generally taught in the colleges and practised in the hospitals. Pus was not regarded as injurious to the wound except when of unhealthy quality and it was the quality, not the quantity, that interested the surgeon. Good pus was thick like cream and was called "laudable pus"; it was thought to indicate healthy healing. Practically we had a continuation of the old controversy of the healing of wounds by "first intention," the "dry method", or by suppuration, the "wet method".

Lister's series of experiments by which he demonstrated the element in pus which renders it prejudicial to the healing of wounds, and the discovery of an effective remedy by which that element can be rendered inert from the moment of operation, are the most brilliant in the annals of science. Impressed with the fact that he had a mortality of 45 per cent. in his cases of amputation, though great care was exercised to protect the wound, his mind recalled Pasteur's theory that microorganisms are the cause of putrefaction and that in his observations putrefaction was present only when there was suppuration. He at once began exjeriments to test the truth of the theory of Pasteur by employing such agencies as he could command to destroy any germs present and still not harm the wound. He was finally led to the use of carbolic acid which proved satisfactory.

Lister began his experiments in 1865 and printed his first paper entitled, "On the Antiseptic Principle in the Practice of Surgery," in 1867. No one but a contemporary of that period can realize the storm of criticism and ridicule which greeted the author of that paper. He was accused of not being original in his work; of not obtaining better results than the old method of practice; of rendering operations tedious; of employing childish and ridiculous apparatus and dressings.

Lister answered his critics by the performance of new and more incredible operations without pus or fever and in the meantime improved the details. His reported excision of a knee-joint, 1878, and wiring a fractured patella, 1883, without suppuration, brought to a climax the amazement of older surgeons at his pretensions. But what appealed to the elders as recklessness inspired the juniors with a commendable desire to test the truth of his statements in actual practice. I introduced the practice into the wards of Bellevue Hospital greatly to the digust of many of my colleagues who refused even to visit the wards where the patients were under treatment. I had the satisfaction, however, of a visit of Mr. Lister himself, while on a tour in this country, who generously

commended my work and in his autobiography gives me the credit of introducing asepsis.

On visiting Lord Lister at his London residence in 1894, I found him quite pessimistic as to the then state of asepsis. He remarked that he believed true asepsis was rarely practised. "Why," he said, "I was in Berlin a few days ago and at the urgent request of friends attended the clinic of a noted aseptic surgeon. All his methods were excellent but on becoming confused in the operation he stopped, scratched his head, and completed the operation without sterilizing his fingers. That was an infected wound and its suppuration will be attributed to the failure of asepsis."

On relating this incident to a former house surgeon to Lister's ward while he was experimenting with different agents, he said: "Lister was very much subject to perspiration especially when intently engaged in an operation, and I have often seen the sweat of his face fall into the wound without attracting his attention." Lister's great success, even under such unfavorable conditions, depended, probably upon the thoroughness with which he finally applied disinfectants, for he dwelt especially upon that feature of aseptic treatment.

ANÆTHESIA AND ASEPSIS.

1867.

With the introduction of asepsis into practice the art, operative medicine, became a true science. The entire process was governed by rules which ensured success. Compare Lister's statement that his best results in amputations showed a mortality of 45 per cent. in 1864-66 by the best methods then in use, with a recent report of a hospital in New York that in fifty consecutive cases of laparotomy, involving many varieties of intra-abdominal affection, 100 per cent. of the patients made a good recovery.

It was very gratifying to me to learn of the following incident which occurred at the Bellevue Hospital recently where pus reigned supreme prior to 1867. A professor in one of the medical schools wished to exhibit a specimen of fresh pus to his class and naturally directed the messenger to apply to the Bellevue Hospital. On making his errand known he was informed that pus in operation wounds had long since disappeared from the wards. Prior to the year 1867 healing by first intention in that hospital was neither expected nor sought by the surgeons. One of the most distinguished operators merely brought the surfaces of the wound together with adhesive strips and placed the wound in such a position that the pus would flow into a vessel, thus avoiding the necessity of frequent renewal of the dressings.

Now all is changed. Healing by first intention is always sought and the presence of pus in operation wounds is a severe reflection upon the care and skill of the staff in charge. But perhaps the greatest and most beneficent result of the improved methods of treatment in operative surgery in this anæsthetic-aseptic era is the rapid convalescence of patients. The operation which formerly was the beginnmg of the end, owing to the exhaustion due to the suppuration which ensued, is now the beginnig of a rapid convalescence. The feeble, nervous sufferer whose heart nearly ceased its action on the thought of an operation now approaches the operating room with a firm step, a normal pulse, and mounts the table with a smile. As operations under the old-time system were illustrated by the description of concrete cases, the vast improvement effected by the combind methods of anæsthetic and asepsis will be most thoroughly appreciated by a similar report of cases treated according to the principles established by these great epochs.

A young woman, aged 18, had suffered from a suppurative disease of the knee-joint five years, and was reduced in vitality to a helpless state. Her fear of an operation rendered her nervous system so sensitive that she had attacks of fainting when an operation was mentioned in her presence. And yet delay of an operation seemed more dangerous than its possible fatal results. A medical friend suggested the preparation for the operation be made in an adjoining room and he would visit her as chaplain and induce her to inhale chloroform to unconsciousness when she could be quietly removed to the operating table.

The ruse worked admirably. The patient was delighted with the perfumery, as the physician called it, and required but three or four inhalations to become insensible. Excision was performed, requiring an hour to complete it and its aseptic dressings, but her pulse continued good under the influence of hypodermic injections of heart stimulants. For several days she was in ignorance of the operation and was surprised that she had no longer pain in the knee but occasionally in her toes. One morning she saw a spot of blood on the sheet over the knee and was greatly alarmed as she had been told there was danger of fatal hemorrhage. On being assured that there was no danger and that the operation had been performed and she was recovering, she became frantic with joy. A vigorous appetite now developed and with freedom from pain and refreshing sleep, her rapid recovery was daily noticeable. The first dressing made was on the twenty-ninth day and there was only slight yellow staining but no pus. She had gained eight pounds in weight.

The folowing incident led me to adopt a method of anæsthetizing very feeble patients which has proved very serviceable. I was aiding

a colleague in an operation for cancer of the breast on an old lady who was very fat, with a feeble intermittent pulse and nervous excitement. She had been prepared in the usual way with purgatives and simple diet. She had taken but little ether when her face became purple, her pulse disappeared and after a struggle to restore her she was pronounced dead.

It happened that I had a duplicate of this case on which I was to operate on the following day. I was so shocked by this experience that I delayed the operation and studied the situation. The result was the conclusion that probably these patients' feeble and intermittent heart-action was due to over-laying and interstitial fat and required supporting rather than the depressing treatment then employed. Though this indication could be met by hypodermic heart stimulants I recalled two facts that determined by course, *viz.*: (1) Larrey, in his memoirs of the Napoleonic wars advised operations on soldiers while they were drunk, for they neither fear nor feel pain, and (2) hot milk is a quick nutrient and sustains a weak heart. Here were the remedial agents which my patient required to prevent fatal collapse.

After preparatory treatment I directed that at 8 o'clock on the day of the operation which was at 3 o'clock, the patient should receive one ounce of hot whiskey in a glass of milk, and the same must be repeated at 10 and 12 o'clock unless she was much disturbed. On visiting my patient at 3 o'clock on the day of the operation I found her in a most satisfactory condition. She had not required the stimulant the third time, having become quite excited about the details of the operation which had taken fantastic forms in her enlivened but disordered imagination.

On entering the ward she greeted me with some affectionate terms, expressed her delight that the operation was about to be performed and wished she could see the medical students present. Her face was flushed, eyes suffused, skin warm and her pulse full and regular at ninety-six. She came under the influence of the anæsthetic without a struggle and required an amount estimated at one-tenth that ordinarily given, the whiskey having already secured partial anæesthesia as Larrey suggested when he ordered wounded soldiers to be operated on while drunk. The pulse remained at ninety-six during the time occupied by the operation and the application of the aseptic dressings. She made an unusually rapid recovery, the pulse continued at ninety-six for several days; her appetite became vigorous; her happiness that the operation was over was extreme. But one dressing was employed and when it was removed there was no sign of pus and only the yellow staining of serum.

During the many years that I have used the anæsthetic, hot milk and whiskey, I have not seen a patient fear an operation, nor suffer from shock or collapse.

I trust these desultory reminiscences of the introduction of the two greatest epochs in human history may lead us to a proper appreciation of the labors, trials and skill of the surgeons of the pre-anaæthetic period, who amid the heart-breaking screams and uncontrollable struggles of patients devised and successfully performed the great operations which adorn the annals of surgery.

There is a profound truth in the remark of the historian, that "such knowledge widens the horizon, for a glance into the past, and an insight into the present of human activity, deepens the view for a comprehension of the ideas which guided the earlier and more recent physicians, and gives on the other hand to our daily professional labor a high consecration."

UNITED STATES' REGULATIONS REGARDING SMALLPOX VACCINE.

Proposals as listed below have been accepted, after poster and circular advertisement, for the furnishing of smallpox vaccine in tubes to the United States Public Health Service during the fiiscal year ending June 30, 1920, at the rate of five cents (5c.) per tube, in packages of five, without exchange privilege.

Eli Lilly & Company, Indianapolis, Indiana.
E. R. Squibb & Sons, New York, N.Y.
National Vaccine & Antitoxin Institute, Washington, D.C.
H. K. Mulford Company, Philadelphia, Pennsylvania.
Parke, Davis & Company, Detroit, Michigan.
The Gilliland Laboratories, Inc., Ambler, Pennsylvania.
The Cutter Laboratory, Berkeley, California.
Lederle Antitoxin Laboratories, New York, N.Y.

Department approval of May 29, 1919, will be cited as authority for purchases of smallpox vaccine, and each officer will certify accounts covering material furnished for use in work under his direction.

Requisitions upon the Bureau for smallpox vaccine will be immediately honored, but officers are particularly requested to place orders direct with the most convenient distributing agency of any of the contractors named.

When there are agencies of two or more contractors equally convenient to any station, the medical officer will make an equal division of the business throughout the year.

CURRENT MEDICAL LITERATURE

FIRST AID.

The time is coming when no person may be said to have completed a common school education unless he or she possesses some knowledge of what to do in a non-professional way in the treatment of accidents of every-day possibility. Under Red Cross encouragement first-aid instruction is being made a part of the regular curriculum in the schools of the country. As an auxiliary of the more intensive training being carried on in the factories, mines and in industrial plants generally, this instruction serves as one of the most important factors in the conservation of human life and human efficiency.

Some details of the campaign which the First Aid Division of the American Red Cross is conducting to spread the instruction and training in connection with this matter, are presented in a special article in this number of *The Bulletin*. First aid was given much consideration in the preparation of soldiers for duty during the recent days of mobilization, and now it becomes a natural part of the Red Cross program in connection with the broad peace-time activities. The new Red Cross idea is to diminish and prevent suffering, as well as to relieve it. Accidents, like disease, we are beginning to know, if we did not know it before, are largely preventable; and, as with the treatment of disease, modern logic links means of prevention with the cure or relief rendered to actual suffering.

With the organization of effort to stay the ravages of disease, we are looking forward to a time when the race will be safe from epidemics and when children will have better chances of developing into a healthy maturity. Accidents always will happen, of course, but the inevitable effect of the instruction aimed at in reference to them will be to lessen the percentage of fatalities and also lower to a pronounced degree the chances of their occurrence.

Statistics regarding accidents, given in the article telling of the work of the First Aid Division, will be found very interesting, and, in conjunction with the setting forth of methods and purposes, should stimulate an interest in first aid on the part of every reader.—*American Red Cross Bulletin.*

RELATIONSHIP OF THE NATIONAL ASSOCIATION TO OTHER AGENCIES IN THE TUBERCULOSIS CAMPAIGN

In his presidental address delivered at the fifteenth annual meeting of the National Tuberculosis Association, President Lyman makes the keynote the matter of cooperation between the National and State Tuber-

culosis Associations on the one hand and other agencies that are or should be allied in our efforts to control tuberculosis. Co-operation with established health authorities, local, state and national, is of the first importance. State legislatures should be approached for aid with the petitioners exactly outlining their needs and presenting definite budgets of expenses. Local bodies must, of course, have good working organizations but in addition to this, every effort must be made to keep up the personal interest of the members of the associations, and to keep them in active contact with the general work throughout the country. Never has the time been more favorable to interest the great body of practising physicians in tuberculosis work; for fully one-quarter of these have been in the army where they have received a new insight into latest diagnostic methods and the gravity and magnitude of the tuberculosis menace. More and more attention is being paid to the training of nurses in tuberculosis, but our central organizations should do their utmost to stimulate interest in special training schools. The educational work of sanatoria and hospitals should be much more intensified. Tuberculosis associations should keep in close touch with industry, and should study the methods of the various relief societies. The National Tuberculosis Association should also help the people in arriving at a decision as to the value of co-operative health insurance. Our association is also in hearty sympathy with the movement to co-ordinate the various public health associations of the country. Its directors have already pledged co-operation to whatever extent may be possible without jeopardizing the individuality of the National Association. The association should also favor the adoption of some kind of a system of universal military training, which would make possible a complete study and corrective physical training of every young man in the country.—*American Review of Tuberculosis.*

PNEUMONIA

Some details as to the incidence of pneumonia among 1,633 Porto Rican laborers at Camp Jackson, Columbia, S.C., are reported by J. H. Park, Jr., and H. T. Chickering (*Journal A. M. A.*, July 19, 1919). The laborers arrived in the camp in September, 1918, a large proportion of them evidently ill-nourished and obviously underclad to meet the conditions of the almost freezing nights of October and November at Camp Jackson. Respiratory affections soon developed and 1,003 of them were admitted to the base hospital with influenza. Of these 220 showed signs of complicating pneumonia, and sixty-seven died, a mortality of 30.4 per cent. At first, cultures could not be made from all the cases, but as soon as the hospital assumed its normal conditions careful examination of all pulmonary cases was resumed. In the early part

of the epidemic typical cases of pneumonia were seen, but later, after about December 15, a number of admissions of more typical lobar pneumonia occurred. In the early part of the summer, twenty-two out of fifty-one cases of pneumonia at the camp were of Type I infection. From that time on until September 15, 1918, only twelve more cases of Type I infection occurred out of 122 cases. While the statistics are rather fragmentary, only three patients were found harboring that type of pneumococcus in the sputum, and only two gave positive blood cultures. Type I pneumococcus infection seemed rare during the epidemic among the soldiers, as compared with other types. Of 312 necropsy cultures it was found only eight times, whereas other types of pneumococci were found 131 times, and Staphylococcus aureus, 153 times. It was therefore of interest to note that Type I was the most frequent among the Porto Ricans, the table showing twenty-four out of forty-two cases among them, as compared to only three among the white and black soldiers. The barracks of the Porto Ricans had to be altered and made warmer, and the possibilities for infection were thus increased. The methods of sputum and blood examination are described. The Type I cases were treated intravenously with antipneumococcus serum, according to the method described by Cole. They differed from those usually complicating influenza as being more of the ordinary lobar type. The serum therapy of pneumonia in the whites is followed by serum sickness in a large percentage of cases, while it was noted that it was less so among the negroes, and its absence was still more striking among the Porto Ricans. Only four of the thirty-one men treated showed the serum fever reaction, by urticaria, etc. The results of the serum therapy were gratifying, the mortality being only two out of the series of thirty-three cases, contrary to the usual experience among white persons.

INFLUENZA

W. T. Longcope, New York (*Journal A. M. A.*, July 19, 1919), gives a review of the present data in regard to influenza in the American Expeditionary Forces. The first outbreak appeared in April and May, 1918, and was spoken of as "the three-day fever", and was very mild. It appeared first near Bordeaux, and was notable for its rapid spread, high morbidity rate, short duration and rarity of complications. The onset was sudden with fever, headache, prostration, pain in eyeballs, muscles, etc. Convalescence was almost always uneventful. The upper respiratory tract was not altogether uninvolved in some cases, and there was occasional pneumonia following. The second and serious outbreak started in the latter part of August or early in September, and from the end of September until the last of October was at its height. In its

characteristics, it was the same as in this country. It will be difficult to fix the morbidity rate, but it will probably not differ greatly from that here, and the mortality was high. A study of carefully collected figures and a full analysis of the situation are still needed. Special mention is made of a group of cases, in which the meningococcus was probably a secondary invader. This second terrible outbreak subsided during the early part of November, and the respiratory infections became rapidly its most important feature. These were also more prevalent during the interval following the great pandemic. Troops in all parts of France were affected, and other infections were likewise frequent after the second outbreak. The third outbreak occurred in January and February, 1919, and was much less serious.

TYPING PNEUMOCOCCI

Leon Loewe, Samuel Hirshfeld and Kaufman Wallach, New York (*Journal A. M. A.*, July 19, 1919), because of the disadvantages of typing pneumococci by means of the sputum or urine, have devised and published a method of using the blood for this purpose. Pneumococci produce a coagulum, as pointed out by Longcope and Rosenow, when grown in the serum of patients suffering from pneumonia. This clot is due to the production of acids probably from glycoproteins in the serum. They found this property to be specific, not only to pneumococci as a group but also for the different types. A further discussion of the theory of the reaction is promised at a future time. The procedure devised is given as follows: "Ten c.c. of blood are drawn with sterile precautions into test tubes containing a few crystals of potassium oxalate (sufficient to prevent clotting). The blood is then shaken with pure fresh ether, added in small, successive amounts, until the red cells are completely laked. The laked blood is transferred to a sterile centrifuge tube and centrifuged at high speed for five minutes. The disk of red cell shadows which collects at the surface is removed with a heated platinum loop. With a sterile pipet, 0.3 c.c. of the laked blood is placed in each of four sterile stoppered tubes 0.8 by 13 cm. To each of the first three is added 0.5 c.c., respectively, of saline emulsion of proved Type I, II and III pneumococci grown in glucose serum agar. The fourth tube constitutes the control. Sterile physiologic sodium chlorid solution is added to all tubes, sufficient to make up to 1 c.c. Sterile pipets are used throughout. All tubes are stoppered and placed in a water-bath at a temperature of 37 C. until the color change appears." The reaction consists in the formation of hemoglobin derivatives, which finally result in the production of a dark, brownish red gelatinous clot. The chemistry has not been fully studied. The average time for color change is from

six to eight hours. Precautions needed are blood-testing as soon as possible after taking it from the vein, fresh ether free from alcohol, and the use of saline emulsions of actively growing strains of pneumococci grown on glucose serum agar. Studies were made on fifty-two patients. In forty-nine cases the tests could be confirmed by agglutinin reactions made on organisms isolated from sputum, in lung puncture or both. The three remaining patients were tested a considerable time after the crisis, after which the reaction apparently does not persist. Control tests on other diseases were uniformly negative. The advantages claimed for the method are: "1. It is simple. 2. The reaction, when it occurs, is unmistakable and persists. 3. From 5 to 10 c.c. of blood are practically always obtainable, whereas a satisfactory sputum is often not available, especially in the early stages of the disease. 4. A reaction with blood is obviously more accurate than one depending on sputum, in which contact types may be present. 5. Mixed pneumococcus infections can be determined." Further studies on the subject are promised.

EPIGASTRIC HERNIA

J. N. Hall, Camp Logan, Houston, Texas (*Journal A. M. A.*, July 19, 1919), emphasizes the importance of epigastric hernia, which is not generally realized, he thinks, by physicians. There is no lack of description of the condition in the text-books. These hernias generally occur in or near the central line, two or three inches up from the navel. An ordinary lipoma may occur here, but is more movable and not tender on pressure. Keen describes four varieties of this hernia: "1. A small mass of subperitoneal fat without any sac. 2. In addition to the subperitoneal fat a process of parietal peritoneum attached to it without any contents. 3. A sac containing omentum (omentocele). 4. A sac containing intestine." If the opening of the sac is large enough the contents may increase in coughing, but this happens in less than ten per cent. of all cases. Of the many score that Hall has seen, only half a dozen contained any portion of the bowel. The fault in the statistics is due to the failure to recognize the very small hernias, as large, say, as a shirt button. There are twenty of these to one the size of a filbert. In eighty per cent., it may be, there are no symptoms, but if a bit of omentum actually comes through the orifice, symptoms are produced of pain or discomfort, a feeling of dragging, and the ulcer symptom, sour stomach, occasional nausea and even vomiting; distress after eating with periodic exacerbation of all symptoms, and even colic. Sharp pressure causes the patient to double up to escape pain, and in two or three cases Hall has noticed that an instant belching follows a touch on the hernia. The association with gastric ulcer has long been known, but is not as often

recognized as it should be. No benefit would be received from operation for ulcer if the hernia were overlooked. Hall reports cases illustrating the condition, and believes that physicians should examine with special care for these hernias in every case of digestive disease. If one is found, the surgeon should be consulted as to the advisability of operation. The question arises only in a minority of cases, however. The operation is trivial in comparison with the results commonly obtained.

THE NEW FEDERAL DEPARTMENT OF HEALTH IN CANADA

Once more the Dominion of Canada has taken a mighty step forward by the establishment of a Federal Department of Health, and a minister, together with a deputy minister has been appointed.

This very important step is but the beginning of a new march in the progress of health, for our province.

Up to the present, the Province of Ontario has stood first in the health work of the Dominion and this first place has been attained and maintained through the establishment and enforcement of the Ontario Public Health Act.

Many of the other provinces of the Dominion have patterned their various provincial health acts on the Ontario health act, but have so far not yet reached its standard of excellence.

However, now that the Federal Department has been established, the whole Dominion will soon be brought together and the work of the several provinces consolidated into one great working unit.

The new Deputy Minister is Dr. John Amyot, C.M.G., former Director of Laboratories in the Province of Ontario, and Professor of Hygiene in the University of Toronto. Dr. Amyot went overseas as sanitary officer commanding Base Hospital No. 4, sent out by Toronto University. He did not remain long, however with the hospital staff, but was appointed to Headquarters Staff very soon after reaching England.

Mentioned several times in despatches and decorated by the King for his services in the war, he returns to Canada and reaps a further reward, in his recognition by the Dominion, as the suitable man to take charge of the great health work of Canada.

Lieut.-Col. Amyot, as Director of Laboratories in Ontario, learned to know the Province of Ontario and its health problems in a way no other man probably could. He has a wide and far-reaching appreciation of the vast needs of the Dominion as a whole. Added to this knowledge, is that gained in his work at the front, where he guarded so well the health of our Canadian Boys. And finally he is a man who manages to "get things done" without that unfortunate notoriety that attaches itself so often to high public officials.—*Canadian Medical Bulletin.*

RED CROSS WORKERS AND PREVENTIVE MEDICINE

It must be acknowledged, and with heart-deep thankfulness, that no organization ever instituted, has so thoroughly justified its existence, or so thoroughly thrown itself into the joy of living up to its ideals, as the Red Cross Society during the recent war.

The number of sick and wounded that have reaped its blessings, cannot be estimated. Its thousand and one far-reaching arms, have stretched themselves into the deepest and most hidden corners of misery and pain and need, carrying help where otherwise there would have been no help.

Because of the pressing necessity of war, this organization has taken into its fold, hundreds of workers willing and eager to help the sick and wounded—workers, hundreds of whom had little or no experience in dealing with sickness and disease, and has taught them lessons in nursing and medicine that will never be forgotten.

It has been the means, therefore, of spreading broadcast the most useful knowledge in the world. Thousands of workers have themselves learned many of the fundamental principles of preventive medicine, and this knowledge has been passed on, consciously and unconsciously, to everyone with whom they have come in contact.

These lessons have been learned, too, through actual experience, and there is no teacher so thorough and so impressive as experience.

However, now that the war is over, and, (to a casual observer), there is no necessity for the continued existence of the Red Cross Society, it would be an unspeakable loss to the world, if its various activities were to be allowed to find no outlet.

This Dominion itself has at last awakened to the fact that health is the greatest asset to any nation on earth, because national health is the very foundation of national prosperity. And why not make the Red Cross an instrument for the spreading of its well-learned lessons in hygiene and sanitation from one end of Canada to another.

The organization is large enough and perfect enough, and Canada is broad enough to afford scope for an educational campaign in public health work that will make it the healthiest as well as the most beautiful country under the sun.—*Canadian Medical Bulletin.*

WAR WOUNDS

Primary and secondary suture in war wounds is discussed by E. H. Pool, New York (*Journal A. M. A.*, August 9, 1919). Local conditions, such as the degree of battle activity, materially affect the indications for suture in the advanced area. Considering first the injuries of the soft parts, the immediate aim of treatment is the prevention or limita-

tion of infection. This limitation or prevention is accomplished primarily by débridement of the tissues. When the débridement has been completed, there is a choice between primary suture of wounds in the soft parts and leaving the wound open. When haste is required and the patient quickly passes out of the operator's control, primary suture should not be considered. "The advantages of primary suture are obvious: the disadvantages consist chiefly in the danger of closing within a wound, especially within a wound imperfectly debrided, noxious micro-organisms, particularly anaerobes of the types which produce gas gangrene. A resulting gas bacillus infection or a pyogenic infection in a few cases will counterbalance many successful closures. The only means of rendering primary suture safe is by extreme operative care and thoroughness, thoughtfulness and judgment in the selection of cases, and, finally, scrupulous watchfulness for some days after the operation. When the general conditions are such as to warrant primary suture, many considerations must be weighed in each case in deciding whether suture is indicated." These considerations are the interval between receipt of wound and the operation, type of tissue injured, and situation of the wound. Wounds involving large muscles of the calf, thigh or gluteal region should not be closed, as a rule, after a longer interval than eight hours. In other muscular parts, the time may be lengthened to twelve hours, and for wounds not involving muscles, still further. These rules are not absolute but merely suggestive. Wounds of the face and scalp are regularly sutured, and wounds of the hands also, as a rule. Extensive wounds of the feet should be left open as a rule and closed after treatment by the Carrel method. Extensive laceration of the soft parts or presence of large shell fragments or considerable clothing in the tissues shortens the time within which primary suture is safe, as do also conditions requiring haste in the operation. Diminution of the vitality of the parts, especially from vascular lesion, precludes closure, and primary suture must not be made unless the patient can be watched carefully for days afterward. Débridement is essential, but strict asepsis is also. Partial primary suture of wounds of the soft parts has nothing to recommend it. Pool gives details of the technique of primary suture, with the rules for the detection of infection by gas bacillus, the indication for delayed primary and secondary suture, the rules for the use of the Carrel-Dakin method, and quotes Lemaitre's reported results, which are less favorable, apparently, than his own. In ninety-nine cases of primary suture of wounds of the soft parts he had ninety-three successes. This, he believes, is approximately the same percentage as obtained by other teams. If the wound must be left open, infection will probably result, and the Carrel-Dakin treatment will do much to control or limit it.

Delayed primary suture is one in which the edges can be approximated and will unite without excision of tissue. Secondary suture is one in which the epidermis has grown in and must be excised, which must probably be done at the end of the first week. The determination of when a wound should be sutured depends on the bacteriologic examination. Reliance must be placed on cultures as regards the presence of hemolytic germs. The technic of secondary suture which is made according to the findings of repeated smears from the wound and an occasional culture showing an absence of hemolytic streptococci is also described. The wounds of the face must be considered independently of others. However extensive, severe and dirty, pyogenic infection and gas gangrene are not likely to develop. This makes it possible to avoid the mutilations which are liable to occur from the want of early operative intervention. The rule is to repair as soon after the wound is received as possible, and after cleaning and removing definitely devitalized tissues. In compound fractures caused by projectiles, the indications for operation are the same as those in wounds of the soft parts. The bone complications simply accentuate the importance of expedition, thoroughness and early closure, especially the last. The principles of treatment of joint wounds are complete débridement of the track of the projectile, removal of foreign bodies, irrigation of the joint (first with saline solution and then by distention of the joint with ether), absolute closure of the joint by suture either with or without closure of the superficial parts, according to circumstances) and, finally, active motion. If the capsule cannot be completely closed, muscle or fascia should be used for the purpose. If the joint becomes distended and infection is suspected the effusion should be immediately aspirated and a culture made. If this indicates pyogenic infection, lateral incisions should be made at once, if drainage is impossible by the original incision, and treatment begun for suppurative arthritis. In conclusion, Pool speaks of the application of the methods approved by war experience to operations in civil hospitals.

SURGICAL SUGGESTIONS

Unconscious patients should be catheterized at regular intervals of about eight hours.

In cases of unaccountable fever, especially in children, never fail to examine the ear.

In all cases of recurrant vomiting examine the midline of the abdomen for a small epigastric hernia.

Never incise a swelling in the course of a large artery without making sure first that it is not an aneurism.

Severe and repeated headaches may be due to the unsuspected presence of otitis media, with or without mastoiditis.

A persistent chronic discharge from the nose should lead one to suspect chronic disease of the frontal or other accessory sinus.

In old people, as in diabetics, corns, bunions and wounds of the feet demand the most careful attention. They are often the starting points of gangrene.

When applying a plaster dressing to the leg always include the foot if the patient is to be confined to bed; otherwise "drop foot" will develop.

A "tumor" of the breast occasionally proves to be only a chronic abscess. It has happened that a breast amputated for carcinoma has been found to be the seat of old abscesses only.

Involuntary urination very often means a distended bladder, and in old men it should at once indicate an examination into the condition of the prostate. Vomiting, too, is often caused by distention of the bladder.

—*American Jurnal of Surgery.*

CORPUS LUTEUM EXTRACT IN CASES OF REPEATED ABORTION.

John Cooke Hirst, M.D., in the *American Journal of Obstetrics*, April, 1918, sets forth the value of Corpus Luteum in these terms.

The type of case to which this paper refers is the one described in text-books as "irritable uterus;" a uterus which will stand distention up to a certain point, usually between three and four months of pregnancy, and then expels its contents. In these cases there is apparently nothing to account for the abortion; no displacement of the uterus, no lacerations or erosion of the cervix, Wassermann negative, no pelvic adhesions, and it occurs usually in patients most anxious to have children. There is no bar to conception, which occurs frequently, but the usual sequel is abortion at the third or fourth month.

Several months after I began the use of corpus luteum extract in the treatment of the nausea of pregnancy, a patient of the type described came to see me, just beginning her seventh pregnancy. I had attended her several times before, in abortion about the third month, and had told her the last time that if she became pregnant again, to consult me as early as possible, and I would attempt to find and correct the cause of her repeated miscarriages.

I had no clear idea at the time what I proposed to do, as careful examination had disclosed no cause for her repeated miscarriages, and I had always ascribed them to an "irritable uterus." When she finally presented herself it occurred to me that possibly the cause of her miscarriages might be a premature absorption or blighting of the corpus

luteum of pregnancy, the relation of which to pregnancy is well known. It seemed possible that if by some failure of mechanism the corpus luteum of pregnancy did not run its normal course, but was absorbed, such an occurrence would lead to repeated miscarriage.

Based upon this and purely empirically, I gave her hypodermics of corpus luteum extract, intramuscularly, using 1 Cc. of the extract, representing 20 mg. of the dried substance, once daily. Having no guide to the number of doses, I gave her thirty-six in all, continuing them over a period of two months. The administration was reduced gradually, and stopped at the end of two months. This patient had never gone beyond the fourth month and one week of pregnancy; this pregnancy resulted in a living child delivered at term in January, 1917.

The second patient had a similar history, having had five miscarriages, all without demonstrable cause. She had never gone beyond three and one-half months. In her sixth pregnancy I began the use of corpus luteum extract when she was seven weeks' pregnant. She received thirty-two doses in all, over a period of nine weeks. She also was delivered at term in October, 1917.

The third patient had had four miscarriages and, except for the smaller number of pregnancies, her history was in every respect similar to the others. No cause whatever could be found. Corpus luteum extract was begun when she was nine weeks' pregnant. She received thirty-two doses, over a period of nine weeks. She had never gone further than three and one-half months in any of her four preceding pregnancies, but in this one miscarried at five and one-half months. November, 27, 1917, again without demonstrable cause.

These cases are rare in the experience of any one physician, as it is not often that close examination will not reveal a possible or probable cause. It is manifestly impossible to prove without operation the correctness of the theory, and the case must rest upon the evidence of practical trial. It is for this reason that the few I have had are reported, with the hope that the united experience of physicians meeting such cases can settle the value of a theory which must rely at present on rather slender proof.

I believed that this use of corpus luteum was original, but find that it is merely independent. In Graves' Gyneacology there is reference to a case reported by Dannreuther, with the date and place of publication not specified, which gives the successful result of corpus luteum extract in a case similar to the ones described. The extract was given by mouth, however. I know of no other use of the hypodermic extract in such cases, and am convinced that if it has any value at all hypodermic administration will prove far more reliable.

PERSONAL AND NEWS ITEMS

Hon. Dr. R. F. Preston, Minister without portfolio in the Ontario Government, has again received the unanimous nomination of the Conservatives of North Lanark. The convention was held in Carleton Place on 4th Sept., and was largely attended. Hon. Dr. Preston has been a member of the Legislature since 1905, and for most of the fourteen years acted as Chief Conservative whip.

In celebration of his seventieth birthday, Sir William Osler, Regius Professor of Medicine in the University of Oxford, was presented at the Royal Society of Medicine, Wimpole street, with two large octavo volumes of essays, contributed to by more than 150 different writers, his pupils, colleagues and friends in the British Empire and America. The essays cover a wide field, including medical history, education and research, as well as pathology and therapeutics.

Dr. Percy Coupland, of St. Marys, has been nominated as Conservative candidate for the Legislature in South Perth.

Lt.-Col. R. A. Bowie, M.D., with a fine record as a surgeon, has been appointed consultant in surgery to Canadian Headquarters in London, which will prevent him returning to Canada until the evacuation of wounded Canadian soldiers from England. It is understood that this apointment will require him to relinquish his duties at Orpington Ontario Military Hospital where he has been second in command since returning from France. Lt.-Col. Bowie was mentioned in despatches for his good work in France with the Canadian Army Medical Corps. He is a graduate of McGill and was noted as a footballer in his student days.

Lt.-Col. R. S. Pentecost, C.A.M.C., desires to announce on his return from overseas service that he has now resumed his civil practice in diseases of the eye, ear, nose and throat at his offices, 90 College Street, Toronto.

Sydenham Military Hospital at Kingston is finished and occupied now. The Ongawanda Building has been converted into a nurses' home, with accommodation for thirty-five nurses, and a group of buildings has been erected to accommodate over 400 patients. The hospital is named after Lord Sydenham, a former Governor-General of Canada, who resided on the adjoining property, "Alwington," and who died as the result of a fall from his horse at a spot near the present hospital.

Police Magistrate James A. Morton, of Wingham, who during the past thirty years has devoted himself to the collection of more than 2,000 different botanical specimens, has donated the results of this great work to the Western University. Announcement to this effect was

made recently by Prof. L. A. Wood, director of the University Advancement Bureau. The collection is regarded as the finest developed privately in Canada, and represents practically every form of plant life known in Western Ontario. In addition there are numerous valuable specimens secured by Mr. Morton through exchanges made with collectors in al parts of North America. He has kindly furnished many hundreds of duplicates, through the exchange of which the collection, will be enlarged after it passes to the university.

Dr. Perry Goldsmith has returned from overseas and resumed his ear and throat practice at 84 Carlton St., Toronto. The doctor, who is a Colonel in the C.A.M.C., has spent four years overseas and has occupied some of the most responsible positions in the Canadian service. He was twice mentioned in despatches and was invested with the Order of the Most Excelent Order of the British Empire by the King recently, at Buckingham Palace.

The announcement of McGill University, Montreal, is to hand. It gives full information regarding lectures, etc., for the session, 1919-29. The announcement is got up, as usual, in a very neat and attractive form.

Dr. Alex. McKay, Inspector of Prisons and Charities, told Commissioner Hodgins that the facilities for dealing with the feeble-minded in the Province were not what they should be, neither was the parole system the best that could be devised. He was trying to improve the system, he stated. Institutional care or feeble-minded, he believed, was the best method of dealing with them.

Dr. C. K. Clarke, of the Toronto General Hospital, placed before Mr. Justice Hodgins, who held a special sitting recently at the Parliament Buildngs as a Commissioner to inquire into the prevalence of feeble-mindedness in the Province, the report of an investigation which had been made in the city by himself and colleagues. It was stated by Dr. Clarke that 376 women and girls had been examined in Toronto, that 258 of the number were found to be mentally deficient and that 167 were shown to be suffering from venereal disease. Most of the prostitutes, it was found, were young girls.

There was a fire on September 4th in one of the minor buildings of the Western University, London, that caused a loss of $8,000.

At a recent banquet, Sir Arthur Currie spoke in very laudatory terms of the splendid work done at the front by General A. E. Ross, one of the Kingston doctors who had gone overseas early in the war.

Prof. Clifford Allbutt, in presenting the volumes that had been written in honor of Sir W. Osler's seventieth birthday, spoke of Sir William Osler's many years of supreme service in two knidred nations

and for the world. In him they saw the fruitfulness of the marriage of science and letters and the long inheritance of a culture which had survived to inspire and adorn a civilization which so lately had narrowly escaped the fury of the barbarian. He hoped that for many years to come Sir William would abide in his place as a Nestor of modern Oxford, a leader in the van of medicine, and an example to them all.

A short time ago Dalhousie University celebrated the hundredth anniversary of its foundation. The University has grown from the original grant of £9,750 secured for it in 1817 by Lord Dalhousie.

Col. G. G. Nasmith, Ph.D., has resigned his position as chief sanitary officer to Toronto. He is going into consulting sanitary work.

Dr. H. L. Brittain has resigned from the position of general manager of the Toronto General Hospital.

OBITUARY

CHARLES DUNCOMBE, M.D.

Dr. Charles Duncombe, of St. Thomas, was killed on the afternoon of September 14th, in a distressing auto accident five miles out of Brantford, on the Cockshutt road. Mrs. Dr. O. M. Duncombe, of Waterford, sister-in-law, lies in the Brantford General Hospital in a very critical condition and her life is despaired of, as a result of the accident. Dr. Duncombe, of Waterford, brother of the deceased, was injured in the wreck, receiving a dislocated shoulder and a badly cut face. The deceased doctor's wife, who was also in the party, escaped with a shaking up.

The accident happened at the McGill track, when an auto containing a number of employees of the Brantford Shoe Company, of that city, plunged at right angles into the car driven by Dr. Charles Duncombe. Both cars were wrecked, the occupants being strewn about the road. A cornfield at the corner intervened causing the drivers of each car to miss sight of each other. Both were going at a good speed at the time of the accident.

The Brantford motor ambulance was rushed to the scene and conveyed the three injured to the city. Dr. Duncombe, of St. Thomas, died on his way to the hospital.

Coroner Dr. Hicks was called in attendance and declared the condition of Mrs. O. M. Duncombe to be most critical. Al the occupants in the Brantford Company car escaped serious injury.

IVAN D. HAYES, M.D.

Dr. Ivan Dwight Hayes died recently at his home 224 Davenport Rd., of heart disease, aggravated by war service. Dr. Hays, who was 34, was a graduate of the University of Toronto, and at the first request of the British authorities for medical officers he offered himself, received a commission and went to France. The following year he was invalided home and was appointed medical officer to the Royal Flying Corps, but ill health again intervened. He recovered sufficiently to resume private medical practice until about two weeks ago. His mother and one sister survive.

ROBERT HANLEY, M.D.

The death occurred on 19th September, in Hotel Dieu, of Dr. Robt. Hanley, a well-known physician of Kingston, as the result of an operation for appendicitis. He practised there for the past twenty years and was physician of the penitentiary for the past four years. He was an alderman for some years and prominent in sporting circles, particularly on the turf. He owned several race horses. Besides his parents, he is survived by two sisters and one brother. Deceased was unmarried.

WILLIAM B. KAYLER, M.D.

Dr. William B. Kayler, who died 20th September, at his residence, 183 Annette Street, West Toronto, had practised medicine in Toronto for eighteen years. He was a graduate of Queen's University. Dr. Kayler was a Methodist, a member of Stanley Lodge, A.F. & A.M., and a member of the Lakeview Lodge of the Independent Order of Oddfellows. The funeral service was held on Sunday at 8.30 p.m., and interment made on Monday at Morven. The late Dr. Kayler is survived by his widow, his son, Karl, flight lieutenant, R.A.F., and a daughter, Fredericka.

BOOK REVIEWS

PROGRESSIVE MEDICINE

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., and L. F. Appleman, M.D. Vol. iii. September, 1919. Diseases of the Thorax and its Viscera, including the heart, lungs, and bloodvessels, dermatology and syphilis, obstetrics, Diseases of the Nervous System. Lea and Febiger, Philadelphia and New York, 1919. Price, $6 per year.

Diseases of the chest are prepared by Dr. William Ewart, of London; Dermatology is conducted by Dr. W. S. Gottheil; Obstetrics in written up

by Dr. E. P. Davis; and Diseases of the Nervous System is under the charge of Dr. W. G. Spiller. The volume is specially well written, and will prove very useful to all who study its pages. Progressive medicine is now a well recognized publication of very high merit. This is the 83rd number, or number 3 of the 22nd volume. We can recommend this publication to all who wish a reliable series of articles.

THE INSTITUTION QUARTERLY

Official Organ of the Public Welfare Service of Illinois. Published by the Department of Public Welfare.

There are in this number many articles of much interest on the care of the insane, and welfare work. Much attention is devoted to the management of feeble-minded children. This is a very useful publication for all who are interested in every type of mental alienation.

TICE'S PRACTICE OF MEDICINE.

This splendid system of medicine is now approaching completion. Prof. Frederick Tice, of Chicago, is the Editor-in-Chief, Prof. Luther F. Warren, of Long Island College Hospital, is the advisory editor in Medicine, and Prof. Julius Grinker, of the Northwestern University, is the advisory editor in Neurology. The forword is written by Dr. M. W. Ireland, Surgeon-General United States Army. There are about one hundred contributors to the system. The entire field of internal medicine is covered in a very thorough and exhaustive manner and these volumes will be as up-to-date as it is possible to make them. An unique feature of the system is that it is on the loose leaf plan, and in this way is kept up-to-date by the supplying of new pages annually to take the place of discarded matter.

CANADIAN MEDICAL DIRECTORY.

The Canadian Medical Directory for 1919, and second edition of this most useful book, is available for the profession. It gives a list of the medical practitioners of each Province of the Dominion, and also an alphabetical list for the Dominion, with a guide to the Province in which the person is residing. There is also very full information regarding colleges, universities and medical councils. We can recommend the Canadian Medical Directory as a book that every practitioner should have in his possession.

MISCELLANEOUS

DR. BAYNE AGAIN DECORATED.

Dr. J. Breckenridge Bayne, of Washington, D.C., who saved Southern Roumania from the scourge of typhus during the German occupation of 1917-1918, and who received the highest decoration from King Ferdinand, has again been honored by that government, receiving the Order of the Regina Maria, First Class, which is one of the most prized Roumanian decorations. The King and Queen have personally thanked him for his services to the country.

Dr. Bayne, whose work among the poor and sick has made his name known in every household, is looked upon by the Roumanian peasants as a sort of national hero. During his two years' fight against the typhus plague he saved thousands of lives. He now has charge of three American Red Cross hospitals, at Cojascu, Titu and Voinesti, which handle only typhus cases.

THREE OF THE IDEALS OF SIR WILLIAM OSLER

Sir William Osler was seventy years old on May 8th. In a tribute to this great physician the Journal of the American Medical Association urges young men to pay careful heed to these words from Osler's response at a farewell dinner given to him in New York on May 2nd, 1904:

"I have had three personal ideals: One to do the day's work well and not to bother about to-morrow. You may say that is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it more than anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it well to the best of my ability, and letting the future take care of itself.

"The second ideal has been to act the Golden Rule as far as in me lay, toward my professional brethren and toward the patients committed to my care.

"And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man."

TORONTO VITAL STATISTICS.

Medical Health statistics of Toronto for the month of August show an increase in diphtheria, scarlet fever, tuberculosis, chicken pox, mumps, spinal meningitis and infantile paralysis, while a decrease is noted in

typhoid, measles and whooping cough. The figures for the month as compared with corresponding month, 1917 and 1918, are as follows:

	Aug. 1917	Aug. 1918	Aug. 1919
Diphtheria	80	91	92
Scarlet fever	46	35	56
Typhoid	10	13	8
Measles	8	43	5
Small pox	0	0	0
Tuberculosis	36	64	79
Chicken pox	18	5	21
Whooping cough	88	122	53
Mumps	16	11	18
Spinal meningitis	0	1	2
Infantile paralysis	1	0	3

SOME HOME REMEDIES.

In the recent past a Wise-woman lived in almost every village, and there she practised with home-made medicines her healing craft. Her potions, balms, and simples she decocted from the assortment of plants and herbs which grew in her cottage garden, or the weeds both rare and common she collected from the fields and hedgerows.

Although the Wise-woman has vanished, much of the useful knowledge of plants and herbs is retained by her descendants and continues to be commonly used by them to relieve simple ailments. Perhaps some of the home-made medicines most generally resorted to by the villager of to-day are the following:

A tea made from dandelion roots and taken as a cure for jaundice and liver complaints generally.

The countryman rubs his warts with the white sap of the spurge or extracts the juice from the celandine and applies it to the "writ" until it shrivels.

For dog-bites plantain is rubbed fine and put on the wound, or else horehound is pounded with salt and applied. The plantain leaves are also used to bind up a cut finger.

For chapped hands a lotion of groundsel is a remedy.

The villager for an aching head knows the benefit derived from a handful of fresh peppermint bruised and laid on the forehead.

A gargle is composed sage leaves, honey and vinegar.

Borage and lemon juice make a drink to clear the blood.

Mullin leaves are stewed in milk and drunk warm as a digestive medicine.

Many old laborers habitually carry a raw potato in their pockets. This is believed to act as an antidote to rheumatism.

As a preventive to contracting contagious diseases the careful mother during an epidemic will pin a sprig of rosemary in her child's frock before allowing it to go into the village. From the same rosemary bush she makes her family hair-wash, and a very good one too.

The country maid removes freckles and sunburn by a lotion composed of elder flowers or a refreshing wash made by an infusion of parsley leaves.

ALBERTA DOCTORS DO NOT WANT TO DISPENSE LIQUOR.

That the prescribing of liquor for beverage purposes be taken out of the hands of the medical men of the Province of Alberta and handed over to the Attorney-General, to be sold through the vendors of the department, was the resolution passed by the medical men in their annual convention at Calgary. The following is a copy of the resolution:

"Resolved, that the medical men of the Province of Alberta be relieved entirely of the dispensation of liquor, as under the present Liquor Act of the Province of Alberta, and that the Province of Alberta dispense liquor through the machinery of the Attorney-General by the vendors for beverage purposes.

"Failing this, that the Act be carried out as originally voted on by the people."

RULES FOR COMBATING THE "FLU".

Will there be another visitation of influenza? writes Col. George A. Soper, of the Sanitary Corps, U.S.A., in *Science*. Nobody can positively answer this question. Influenza commonly sweeps in more than one wave over a country. America experienced an unmistakable, but mild, wave before the great one of September and October and since then there have been local disturbances corresponding to fresh outbreaks in many places. In England a new and alarming prevalence has been reported. It would not be surprising if there should be another pandemic in the United States.

The writer's idea of the most essential things to remember are embodied in the following twelve condensed rules which were prepared in September, recommended by the Surgeon-General of the Army and published by order of the Secretary of War to be given all possible publicity:

1. Avoid needless crowding—influenza is a crowd disease.

2. Smother your coughs and sneezes—others do not want the germs which you would throw away.

3. Your nose, not your mouth, was made to breathe through—get the habit.

4. Remember the three C's—a clean mouth, clean skin, and clean clothes.

5. Try to keep cool when you walk and warm when you ride and sleep.

6. Open the windows—always at home at night; at the office when practicable.

7. Choose and chew your food well.

8. Your fate may be in your own hands—wash your hands before eating.

9. Don't let the waste products of digestion accumulate—drink a glass or two of water on getting up.

10. Don't use a napkin, towel, spoon, fork, glass or cup which has been used by another person and not washed.

11. Avoid tight clothes, tight shoes, tight gloves—seek to make nature your ally not your prisoner.

12. When the air is pure, breathe all of it you can—breathe deeply.

QUESTIONS RE INFLUENZA ISSUED BY THE SECTION ON INDUSTRIAL MEDICINE AND SURGERY, AMERICAN MEDICAL ASSOCIATION.

Q. Will the epidemic again appear?

A. The epidemic will recur, for medical history shows that we have had a series of influenza or grippe epidemics, the last of which proved to be of the most virulent type. There immediately occur to me those of 1867 and of 1889 to 1895. The Metropolitan Life has issued some very definite figures on this latter epidemic covering millions of policy holders, which show an average increased mortality for the five years following of 40% above the normal death rate. Any estimate of economic loss should include the 40% increased mortality that, in all likelihood, will similarly occur in the next four or five years.

2

Q. Is its origin fairly well known? If not, the likelihood of definite information by research.

A. Much private research has been carried on, but its origin and spread is still undetermined. This must be collected and further stimulated, for only thru careful research is there any likelihood of definite information.

3

Q. What success in the discovery of an antitoxin?

A. The possibility of the discovery of a real antitoxin for influenza is wholly dependent upon the discovery of the actual germ, causing the disease.

4.

Q. The possibility of collecting necessary information and its distribution among the people to reduce the dangers of its spread and increase the chances of recovery?

A. I need but cite two of many similar researches, successfully undertaken, that have practically eliminated the dangers of the spread of disease, to wit, malaria and typhoid. Except for our knowledge of typhoid, the armies of Europe would have been decimated by this disease alone.

5.

Q. The generally bad after effects of the disease?

A. The generally bad after effects of the disease are unfortunately too well known by the profession. The Red Cross Chapter in Cincinnati is expending perhaps $200,000 in an effort to examine physically every person that has suffered with influenza; to discover the pathological conditions—bad hearts, bad kidneys and lungs—resulting from this epidemic, and relieving the poverty and chronic invalidism that accompanies it.

6.

Q. The economic loss to the country of the epidemic?

A. The economic loss can hardly be estimated. The 500,000 deaths alone represent $2,500,000,000 economic loss. Economists all agree to the fact that $5,000 is the minimum social and economic value of a human life. It is safe to say that 10,000,000 people had the disease, and that they lost 150,000,000 working days. At a minimum combined loss of wage and production of $7.00 per day, there has been another $1,000,000,000 of economic loss to the country. In other words, conservatively speaking, we had between $3,000,000,000 and $4,000,000,000 loss in this last epidemic.

SOME OF THE POSSIBILITIES OF PREVENTIVE MEDICINE

In glancing over the history of all preceding wars, we find with the single exception of that between Russia and Japan, many more deaths resulted from disease than from wounds, as is illustrated by the following official figures:

In the Crimea—25 British soldiers died from disease for every one killed in action.

In the Spanish-American War—14 American soldiers died from disease for every one killed in action.

In the French Campaign in Madagascar in 1894, of the 15,000 men sent to the front, 29 were killed in action and 7,000 died from preventable diseases.

On the other hand in the Russo-Japanese War, for the first time in the history of war, the order was reversed, and only 1 Japanese soldier died of preventable disease for every 4 that fell in action. This was no game of chance with Japan, as is set forth in an interview with the late Surgeon of the United States Volunteer Service, at the beginning of