

CANADIAN OUT-DOOR LIFE.

A MAGAZINE DEVOTED TO THE GOSPEL OF OUT-DOOR LIFE
IN THE TREATMENT OF TUBERCULOSIS, AND THE VALUE
OF FRESH AIR AND HYGIENIC LIVING FOR EVERYONE

VOL. I

TORONTO, CAN., DECEMBER, 1906.

NO. 2

Exposure to Infection—An Analysis of 100 Cases

BY ALLAN ADAMS, B.A., M.B., FIRST ASSISTANT, MUSKOKA FREE HOSPITAL FOR CONSUMPTIVES.

FORTUNATELY, indeed, there are magazines and books enough at our disposal so that the day is not far off when the majority of people will have no excuse to offer for ignorance of the causes of infection of Pulmonary Tuberculosis. We little realize how important is the knowledge to our own personal welfare. Should not a portion of everybody's time be given in learning how to fight an enemy that carries away from our numbers about one out of every seven?

Perhaps it is harder for us to learn the rules than to see how the rules are actually made. One single instance of the death of a friend or acquaintance due to the neglect of a consumptive would be an object lesson that would provide an impetus far more potent than a series of rules. For this purpose then let us consider a number of cases of tuberculosis and see what we can learn. In order to get a fair impression, we must take the cases just as they come. For this purpose I have taken the last one hundred patients that have entered the Muskoka Free Hospital for Consumptives. These patients have been instructed in the nature of the disease and can give intelligent answers to the questions.

The questions to be asked are:—"Can you attribute any reason to your having contracted this disease? The answer to this question will, no doubt, be one which explains the lowering of their resistance, the preparation of the soil for the seed, for example, overwork, worry, want of food, colds, unsuitable dwellings, climate and alcohol. "Is there any source of infection that you have reason to believe you were sufficiently long enough exposed to, to produce the disease? At first patients readily say "No" but on a little reflection suddenly remember that perhaps the man who worked at the next bench and was careless about expectorating has since been obliged to stop work because of progressive ill health now said to be consumption. Some cannot think of any specific cause and perhaps there was no reason that could have been observed at

the time. One has to discount some of the observations because of insufficient time of exposure or the instance being too remote in the past. In presenting to you these results a point has been made to accept only positive cases as possible instances of infection and turn all doubtful ones into the negative class. It is for this reason that we have a large number of people whom we cannot say have had a definite exposure.

Since the number is large let us divide them into classes. Of the hundred cases there are no less than twelve who have contracted the disease by nursing those already ill. In no case was any marked care taken in the disposal of the sputum. In ten of the twelve cases the patient and nurse were of the same family. One case is a district nurse who had many patients in the slums to care for. Another is a missionary with similar work. One girl said, "I nursed my sister until her death and lived at the same time with another who had the disease." "I nursed my mother for one year suffering loss of sleep because I worked during the day and waited on her at night," was the reply of another.

The second class includes sixteen of the cases and refers to those who have dwelt in the same house with those ill for a sufficient length of time to make exposure possible. One patient says, "I developed the disease while father was dying because he took no care at all of the expectoration." One woman kept a boarding-house where a careless consumptive roomed. Another was for two years with her ill mother. One patient says she lived in the house where four of the family had died of the disease. Very similar indeed are the testimonies of the remaining twelve persons.

The third class—a small one and very similar to the last—is made up of two cases. The one roomed with a friend who has since died, and the other occupied the same room with his father who was very careless.

The fourth class, though small, is one of considerable surprise and revelation. These are the four people who had reason and good

reason indeed, to take it that sleeping together was the cause. Two of these slept with sisters throughout their illness and were cognizant of the presence of the disease. A third one slept with her sister but was not aware of her illness.

The next class are those who had only occasional yet sufficient contact but are not included in the foregoing classes. One of the nine patients spent three days in each week with a consumptive and another frequently visited her neighbor, who was careless, for a period of one year. A third one did the same save the visits extended over a period of three years.

The sixth class—five per cent. of the cases—had dwelt in houses previously occupied by consumptives. One slept in a room previously occupied by a sufferer. Similarly a second lived in a room in a boarding house. A third one, a woman, dwelt for a year in a room whose former occupant was a girl who had died there. Throughout her entire stay the untouched clothing of the diseased girl hung in the room.

“Handling of consumptives’ effects” is the name of a class which might have been included in the next. It has one man only, who handled the soiled clothing in a laundry.

The eighth class includes those who have worked together or as it is often called “workshop infection.” There are eleven of these cases. Eight of these say they worked beside workmen who did not care where they expectorated. Let me quote the words of one of these. “I worked beside a man who had the next vise in a pattern shop. He spat continuously on the floor and the material lying about. The room was dusty and ill ventilated as the man would not tolerate a draft. He refused to allow the windows to be opened.” Another man worked on the material which had previously passed through the hands of a consumptive in a lithographing shop. The last one to be mentioned had occasionally to go under the grating in a sidewalk, through which people from the pavement above expectorated.

The last class are those who cannot say definitely that there was any source of infection. There are many who suppose that conditions of work and other things, (a railway conductor attributes it to the spitting habits of his passengers), are to blame but these are all to be taken as negative. Of these there are forty.

From this we learn that out of one hundred cases fully sixty can attribute their disease to ignorance,—ignorance of the person spreading the infection, ignorance of the person being infected, or both. Is it not obvious, then, that there is a duty for everybody to perform, if we desire to stamp out this disease? Ignorance is to be overcome by intelligence and this must be accomplished by education.

What measures would have prevented the devastation mentioned above? First of all the natural preventatives could have been

encouraged. Nature provides disintegrating forces that destroy the bacilli and these are, briefly, fresh air and sunshine.

The factors we have studied above are those of actual contact, either with the consumptive himself, the place where he has been or the articles he has handled. From these we can readily see the consumptive's duty to his neighbor; first of all the great law of the proper disposal of sputum; secondly, the use of the handkerchief; thirdly, the care in washing the hands and personal effects; fourthly, keeping apart of the eating utensils.

For those who are well a few simple rules will no doubt save their health. They should insist that all consumptives with whom they come in contact should destroy all tubercular matter the moment it is given off. They should not room with a consumptive unless there is absolute certainty that the most conscientious care is being taken. Much less indeed should one sleep with a consumptive. The articles of a consumptive should not be used unless they are properly sterilized. Kissing and hand shaking should be prohibited. Lastly, one should take care that one's dwelling is free from any possible contamination by previous inhabitants.

The Government's duty should be one that protects individuals under its charge from possible chances of infection. Briefly these duties are embodied in: registration of cases, instruction of families, sterilization of places and belongings, factory and house inspection, and maintenance of special hospitals for isolation, education and treatment.

The reward of the consumptive will be the satisfaction of knowing that he is doing his duty to his neighbors. The reward of the well person is in knowing that he is doing his duty to himself and his dependents. The reward of the Government is in seeing the preservation of the numbers of its people, with an annual financial advantage far exceeding the cost of carrying on these measures. The City of London, early in the nineteenth century, reduced its death rate from consumption by two-thirds in fifty years by similar measures.

SUMMARY

Class No. 1.	Attending the Consumptive	12
“ “ 2.	Living in the same house.	16
“ “ 3.	Rooming together.	2
“ “ 4.	Sleeping together.	4
“ “ 5.	Frequent visits.	9
“ “ 6.	Houses previously occupied	5
“ “ 7.	Handling belongings.	1
“ “ 8.	Working together.	11
“ “ 9.	Negative	40
	Total	100

Curious "Cures" in China

ROBERT C. BEEBE, M.D., SUPERINTENDENT, NANKING HOSPITAL, NANKING, CHINA.

WHILE there are doctors galore in China there is no system of medical education and no regulation of the practice of medicine by the government. There never has been any systematic study of anatomy and physiology. The prevalent theories in regard to both these branches of study are ridiculously absurd, and consequently the theories in regard to disease are very often of a similar character.

While they are not able to correctly interpret the phenomena of disease, the Chinese are careful observers and have learned a good deal in regard to diet and care of the sick. When a system of western medical education is established in the empire, as it surely will be in the near future, Chinese physicians and surgeons will easily and quickly take their place in the front ranks of the profession.

Tuberculosis is one of the common diseases of China. Affliction of the joints and infiltration of the glands are frequent manifestations of the trouble, but the Chinese do not recognize it until the lungs are involved, and then it is called Fri Yung, or abscess of the lung. This is considered a very serious disease and is much feared. Pulmonary hemorrhages are looked upon with great alarm, and when one person who is in a controversy with another threatens to "spit blood" it usually serves as a final and effective way of bringing his antagonist to terms. There is a common saying among the people in regard to consumption that shows that long ago they had learned something about its contagion. They say of this disease, "Kotsing kiah puh ko ling kiah," that is, "It infects near relatives but not neighbors."

That the disease is not more prevalent than is in China is perhaps due to two reasons. One is that they do not live in close and artificially heated houses. Their homes are

open, as a rule, to a court on the south side. When cold weather comes they keep warm by putting on more clothing and getting out in the sunshine. Another reason that prevails through Central China and, I presume, elsewhere, is that it is customary for one who has a cough to keep near him a spitbox. Every sedan chair is provided with a neat little spitbox fastened on one side and a pretty flower holder on the other side. Those for the sedan chair are made of pewter, with narrow neck and wide mouth and bottom so that they will not spill if tipped over. Those carrying a hand spitbox usually line them with a kind of straw paper so that the contents and the lining is easily turned out and the box kept comparatively clean.

In regard to treatment, the poor patient, in this as in other troubles suffers much from many physicians. He usually goes from one doctor to another while life and hope lasts. Sometimes a patient gets well in spite of the doctors, as will occur in more favored countries. I was once called to see a young man who seemed to be in a rather hopeless condition. I told his parents that he had tuberculosis, that the lungs were seriously involved and that I could not guarantee a cure, but advised a line of treatment, including fresh air, nourishment and tonic. My prognosis not being a very hopeful one, they went back to the Chinese physicians and called in one with a reputation for curing lung troubles. Some time afterwards I met the father of the young man and inquired after his son. He delightedly told me that his son was entirely well and had been cured by the lung doctor. I inquired what treatment they used and he told me that the doctor had ordered a soup made by boiling the entrails of a chicken in water in which soiled cloths had been washed. He made a rapid and complete recovery.

I suppose that line of treatment would be classed as *forced feeding*.

Dr. William Osler on "the Human Steam Engine"

"Like locomotives, people are made to last a certain time, and, like them, they require repairs. Small repairs can be done inside, but for large repairs they have to go to the doctor. Sometimes this is successful, sometimes not."

"Milk was the original food of man, not meat. Many people get on without meat, if they eat porridge, which is just as good, but the trouble is that most people eat too much of both, and so injure the works."

Should Consumptives Marry?*

SOME men, in their zeal to save human life, recently have ridden the false theory of heredity of consumption so far as to want to forbid by law marriage to all consumptives. The enactment of such a law would be utterly unwarranted.

Consumption is not inherited. On the contrary, immunity gradually comes to those in whose ancestry the disease has existed.

What immunity the white race enjoys has come to it through heredity. It is to children of consumptive parents that we owe the protection we now possess.

Life, therefore, would not be saved by prohibition of marriage between consumptives. On the contrary, the conserving power of nature would be handicapped in its operation.

Besides, prohibition of marriage would prevent consumptives from having offspring. Unnatural laws always defeat themselves.

It merely would put burdens upon the children of consumptives to cripple them in their struggle for existence. It would destroy life instead of saving it.

There is no good reason why consumptives should not marry, so far as the offspring is concerned. There is good reason, however, why they should not marry on their own account.

Celibacy is conducive to recovery from consumption, while married life may be an impediment. It is only the celibate who can devote all his energy, thought and resources to one cause—that of getting well.

To the woman marriage brings the burdens of motherhood, which often have a peculiarly quickening influence on tuberculosis. Many a young consumptive mother gets her shroud shortly after she has purchased the christening frock for her babe.

To the man, too, the duties of married life are a serious impediment to recovery. Many a young man has sacrificed his chances of recovery on the altar of Hymen.

There are times, conditions and circumstances, however, when marriage lessens the burdens of life. What is gained in this way may more than counterbalance what is risked in the married state.

It then is necessary to consider carefully both sides and choose that which offers the best chance of recovery. If the marriage state is entered upon, however, it should be understood by both parties that everything must be subservient to the recovery of the stricken one.

The fact that tuberculosis is contagious should not be lost sight of in considering the question of marriage. The healthy party to the marriage contract runs some risk of getting the disease.

The relationship between husband and wife is so intimate that even with great care there may be given opportunity in moments of forgetfulness for conveyance of the disease. Husband and wife, indeed, frequently contract the disease from one another.

A consumptive, therefore, should carefully consider, before marrying, whether he is willing to expose the person whom he is about to marry, to the danger of getting his disease. As a matter of honor, he should inform the party of his ailment and of the danger from it.

A person considering the question of marrying a consumptive should carefully weigh the risk and the burdens which he is assuming. Unless he can go into the matter in a spirit of self-sacrifice, he should not take the step.

Even when the consumptive has recovered his physical health there may be danger to the person whom he marries. He still may be giving off tubercle bacilli.

There are many cases on record where men and women have given the disease to two or three consorts in succession without themselves going under. In such cases there is fair health, but never complete recovery.

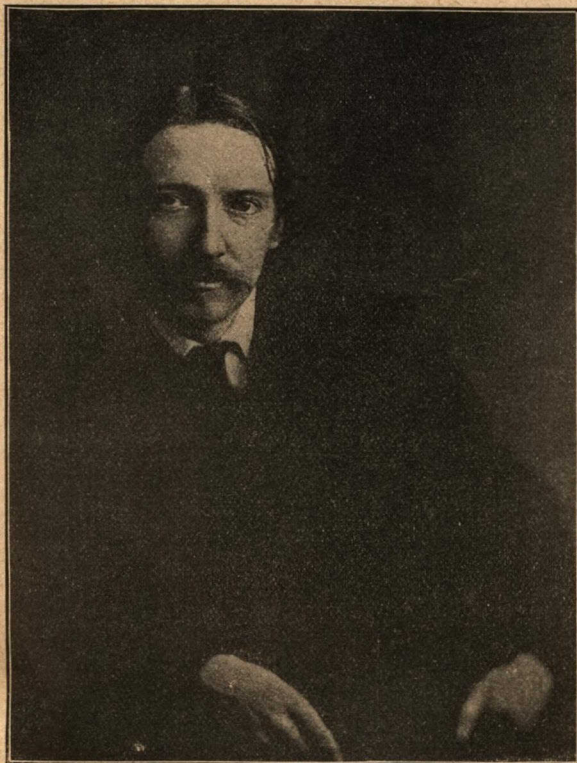
Then, too, the dormant disease may again break out after marriage. The burdens and responsibilities of married life may sufficiently depress the system to enable the disease again to get a start.

A healthy person about to marry a consumptive should have all these things before him. If he is willing to take all the chances, to carry the burdens, and to make the necessary sacrifice for the person whom he is about to marry, none should have a right to interfere.

*Chapter from "Consumption, a Curable and Preventable Disease," by Laurence F. Flick, M.D.

ALL HONOR TO THE WOMEN

The ladies, more power to them, are beginning to see the advisability of carrying in their clothes as little as possible of the civic dirt. Whereas a few months ago skirts which dragged upon or touched the ground were the vogue, one notices now the reign of the trim, cleanly skirt, reaching only to the shoe tops.—*Sunday World*.



ROBERT LOUIS STEVENSON

❖ ❖ ❖

A Brave Man's Message

“Leave not, my soul, the unfoughten field, nor leave Thy debts dishonored nor thy place desert
Without due service rendered.
For thy life,
Up, spirit, and defend that fort of clay,
Thy body, now beleaguered ;
whether soon
Or late she fall ; whether to-day thy friends
Bewail thee dead, or after years, a man
Grown old in honor and the friend of peace,
Contend, my soul, for moments and for hours ;
Each is with service pregnant ;
each reclaimed
Is as a kingdom conquered where to reign.”

❖ ❖ ❖

The Story of Robert Louis Stevenson

FIGHTING bravely the battle of weakness that comes to one suffering from tuberculosis, the story of Robert Louis Stevenson may appropriately find a place in the columns of CANADIAN OUT-DOOR LIFE. A sufferer for many years from the Dread White Plague, this gifted man seemed never to lose heart. To quote his own words in the selection that we publish at the head of this sketch, with him it was in very reality

“Up, spirit, and defend that fort of clay”—

The sketch that we here publish is from the pen of Mr. O. J. Stevenson, of St. Thomas (no relation of the other we understand), and was published in *The Presbyterian* of Toronto.

There is no doubt that the chief charm of Stevenson lies in his appreciation of the beauty and joy of life. In his essay on *The Lantern Bearers*, he tells about the boys in a certain little fishing village, whose chief delight it was in their evening games, to

carry a lighted bull's eye lantern concealed underneath their top coats. And then applying the idea to human life in general, he points out that every man has some lantern of romance hidden under the rough exterior of his life, which gives to his whole existence a secret joy and charm.

Stevenson himself was a lantern-bearer above all else. His own life was in itself a romance, and in spite of a continued struggle against ill health, his unfailing cheerfulness and his delight in life for its own sake were always an evidence that his own lantern was well alight.

Few lives present more elements of genuine romance than that of Stevenson. He was born in 1850, in Edinburgh, “my own romantic town!” His ancestry on the one side had been staid Scotch divines, and on the other great lighthouse engineers—callings in life upon which his imagination loved to dwell. His school days were interrupted by ill health, and he passed much of his youth in the South of France where the

climate was more congenial. These years of enforced idleness were not unprofitable, however, and as a record of two out of door experiences we have the delightful *Inland Voyage, and Travels with a Donkey*. Here too, in the South of France, when a young man, he met Mrs. Osborne, a California lady, separated, but not yet divorced from her husband. His romantic attachment to her led to a trip across the Atlantic as a steerage passenger, his subsequent illness in New York and his experiences as 'An Amateur Emigrant' in crossing the continent to meet her in San Francisco. Here they were married, but ill-health made a settled life impossible and the next five years were spent in various expeditions in search of the ever coveted treasure. It is difficult to form an idea of the actual struggle that Stevenson went through during these years. Attack followed attack, and hemorrhage followed hemorrhage. Time after time his life was despaired of, but he bore up against overwhelming odds with a patience and a cheerfulness that were the wonder of his friends. "My case is a sport," he wrote once on a slip of paper when forbidden to speak, "I may die to-night or I may live till sixty."

In 1885 he settled in Bournemouth, but as his health did not improve, upon his father's death in 1887 the whole family set sail once more for America. Then after spending a winter in the Adirondacks near the Canadian border, they started from San Francisco in a sailing yacht the following spring for a voyage in the South Seas.

The next three years were almost entirely spent on the sea, and in spite of illness they were among the most enjoyable of Stevenson's life. He writes, in the course of one of his voyages: "This climate; these voyagings; these land falls at dawn; new islands peering from the mooning bank; new forested harbors; new passing alarms of squalls and surf; new interests of gentle natives—the whole tale of my life is better to me than any poem."

Finding his health in general improved, he at length decided to make a permanent winter home for himself in one of the South Sea islands. Samoa was chosen because it lay in the direct route of one of the mail steamships; and in 1889 he purchased a bush estate in the hill country some three miles from the town of Apia. The next five years were spent almost entirely on his Vailima estate—for so he named his new home,—and altogether these were five happy years. His time was divided between clearing his land, building his house, writing, correspondence, and making occasional horseback visits to the town.

During these years his powers as a writer were gradually coming to their full maturity, and his popularity was increasing by leaps and bounds. His health too was apparently better than it had been for years, when suddenly and without warning, in December of 1894, the end came. The immediate cause

of death was the rupture of a blood vessel in the brain. He was buried as he had wished, on the solitary top of Mount Vola, and on one of the panels of his tomb was inscribed the beautiful requiem composed in anticipation of death, nearly twenty years before:

"Under the wide and stormy sky

Dig the grave and let me lie;

Glad did I live and gladly die,

And I laid me down with a will.

This be the verse you grave for me;

Here he lies where he longed to be;

Home is the sailor, home from sea,

And the hunter home from the hill."

The personal appearance of Stevenson is so generally well known that little description is required. In height he was about five feet ten. He was exceedingly slender and thin, but so graceful in movement that he was seldom taken for a Scotchman. He was mistaken for a Frenchman more often than anything else. "I have found out what is wrong with me," he remarked at last. "I look like a Pole." His complexion was deep brown, his eyes of the same color, and set wide apart. His hair was dark and was worn long for fear of his catching cold, although in the south seas, when that danger was past, it was cut short. His voice was full and rich, of surprising strength and resonance, and he spoke with a pronounced Scottish intonation.

As an author Stevenson excelled in at least four distinct departments of literature,—the novel, the familiar letter, the essay, and verse. As a novelist his popularity lies chiefly in the fact that his novels represent a new movement in literature, a return to the open air to the freshness and delight in life which had already found its great expression in the novels of Scott and Dumas. The reading world was tired of the overdrawn analysis of novels with a purpose and of poetry that was over-refined, and eagerly welcomed the simple Tusitala—the Teller of Tales. He is of course essentially a novelist of romance, delighting with a sort of artistic delight, in the grim and terrible in life; and the species of romance in which he is at his best is the novel of adventure by land and sea—broils, fights, duels, shipwrecks, pirates, and the quest for hidden treasure, "digging in an old monastery, diving in the deep sea, or sailing the Spanish Main with a mutinous crew."

In the essay and the letter his style shows the ease, grace and clearness of his masters Addison and Lamb, to which was added a freshness, a vivacity, an originality and a humor all his own. Few writers have been more free from stereotyped phrases and conventional forms of expression than he. It is in his essays and letters too that his attractive personality most strongly appears—his romantic temperament, his enthusiastic plea for happiness, for out door life, for travel, and for courage in the face of all difficulties.

It is perhaps safe to say that to the majority of the reading public Stevenson is known chiefly as a novelist. But in the estimation of the writer at least it is in his essays and poems that the most beautiful and most valuable part of his work consists. It cannot be said that either essay or verse delves very deep into the philosophy of human life, but the common experiences, the sources of joy, and the simple delights and duties of life are set forth with a freshness and a charm which is unknown in the latter nineteenth century essay and verse. Let the reader who is uninitiated, read "El Dorado" or "Pan's Pipes" or "A Christmas Sermon"

as an illustration of his essays, or such poems as "The House Beautiful," "Our Lady of the Snows," "To W. E. Henley," or "Not Yet My Soul," and form his own judgment as to whether this high estimate is undeserved.

"To the English speaking world" writes Sidney Calvin shortly after Stevenson's death, "he has left behind a treasure which it would be vain as yet to attempt to estimate: to the profession of letters one of the most noble and inspiring of examples; and to his friends an image of the memory more vivid and more dear than are the presences of almost any of the living."

Cause of Overheating Houses

THE neglect of the element of watery vapor in the air is the greatest cause of overheating our houses. A low humidity is the great cause of discomfort, the source of much ill-health, catarrhs, colds and other diseases of the mucous membranes, skin, etc. Experience and special tests show that we are perfectly comfortable in a temperature of sixty-five to sixty-eight degrees if the relative humidity is fifty per cent. to sixty-five per cent. If the relative humidity falls below fifty per cent. we get cold and chilly at sixty-five to sixty-eight degrees and call for more heat, and we are not satisfied with a temperature below seventy to seventy-two. The fact that we are uncomfortable at sixty-five to sixty-eight proves there is insufficient moisture in the atmosphere of the room or that we are below

par in health. If the latter is the trouble we will know it by slight fever, lassitude, a tired feeling, headache, etc.

Not only does indoor humidity affect the health unfavorably if deficient, but the pocketbook is also unfavorably affected. This plainly appears when we learn that about twenty-five per cent. of the cost of heating occurs in raising the room temperature from sixty to seventy degrees, so if we can keep comfortable at a temperature of sixty-five degrees we shall have saved at least twelve and one-half per cent. of the total cost of heating. A further health consideration, depending upon moisture in the air lies in the fact that living in an atmosphere of less than fifty per cent. humidity the mucous surfaces are sure to lose moisture and invasion of infection is invited.

—Dr. Henry Mitchell Smith, of Brooklyn.

The Air of Large Cities

At a meeting of the Austrian Society of Railway Officials, Professor Paltauf, director of the Institute for Experimental Pathology, read a very interesting paper, embodying the results of his investigations of the air of large cities, says the British Medical Journal. His researches were directed to find out from what source the dust comes, and what are its effects on the human organisms. All kinds of dust affect the eyes, producing catarrhal inflammation; the mucous membrane of the mouth, nose and the deeper organs of respiration are also affected. The dangers of the inhalation of dust lie in the fact that the dust predisposes the body, especially the lungs, to tuberculosis and other infective diseases by producing a slight irritation, with consecutive inflammation, which in its turn gives a good foothold for the microbes.

Of workers in trades where no dust is produced, about 10 per cent. fell victims to phthisis, whilst amongst those who have to deal with dust-producing articles the percentage is 18 to 20. Some kinds of dust produce "hay fever"; for this affection certain kinds of pollen are made accountable, as they not only irritate in their form as dust, but also produce a toxic action. The only place where the air is free from dust is the high sea and perhaps also the upper parts of high mountains. The most dangerous air is that of over-crowded, dirty, and filthy dwellings.

All sorts of microbes live on the surface of the healthy body, but they thrive only if the resisting power of the organism has been lowered by preceding inflammations. The street dust is nearly free from the bacilli of tuberculosis; these are found chiefly in the rooms inhabited by consumptives, in railway cars, and so on.

Be not simply good—be good for something.—Thoreau.

CANADIAN OUT-DOOR LIFE.

PUBLISHED MONTHLY BY THE NATIONAL SANITARIUM ASSOCIATION OF CANADA FROM THEIR OFFICES, 28 ADELAIDE STREET W. (SATURDAY NIGHT BUILDING), TORONTO, CAN.

A MAGAZINE devoted to the gospel of out-door life in the treatment of tuberculosis and the value of fresh air and hygienic living for everyone.

SUBSCRIPTION PRICE, \$1.00 a year to any point in Canada, United States or within the postal union. Single copies, 10 cents.

ADVERTISEMENTS accepted only from reliable firms. Advertising rates upon request.

CHANGE OF ADDRESS. Subscribers should notify us promptly of any change in their address. Always give the old as well as new address.

ADDRESS ALL COMMUNICATIONS, business and editorial, to J. S. ROBERTSON, *Secretary National Sanitarium Association and Manager "Canadian Out-Door Life,"*

28 ADELAIDE ST. WEST (Saturday Night Building) - - - TORONTO, CAN.

INTERESTING THE SCHOOL CHILDREN

MONTREAL has moved intelligently and with more promptness than most other places in taking steps to interest the children in the study of tuberculosis. The Montreal League for the Prevention of Tuberculosis is to be credited for its activity in this direction. The special aim of this League, during the four years of its existence, has been, as far as possible, to place incurable cases in institutions, where they may be properly cared for and where there is no danger of transmitting the disease to the uninfected: and in the earlier stages of the malady to arrest and stamp it out by teaching the patient how to protect himself.

This educational work is to be extended in the manner we have just indicated.

School children are often an excellent medium through which to reach the family.

The Montreal plan is this, that a short, intelligent and readable catechism be compiled for use in junior schools, to consist of not more than 3,200 words, in the form of simple questions and answers, dealing in concise, clear, direct and non-technical

terms with the subject of hygiene in its relation especially to the prevention and cure of consumption.

A prize competition has been inaugurated, where a prize of \$25.00 will be given to the most complete, intelligent and satisfactory catechism, to be written either in French or English.

The following is a suggestion as to the form which might be followed:

- Q. Is health the most valuable thing in the world?
- Q. How can you preserve your health?
- Q. Why is consumption called the white plague?
- Q. Is it a preventable disease?
- Q. How can you escape consumption?
- Q. What precautions should you take when visiting a consumptive?
- Q. How is the disease spread?
- Q. What precautions should a consumptive take?

There is no reason why this work should be confined to Montreal. We pass on the suggestion to Toronto, Hamilton, London and the community as a whole.

Sound Health is Like True Friendship, the Value of it is Seldom Known Until it be Lost.

THE GOSPEL OF FRESH AIR

ONE has only to make inquiries of his friends to learn of the numbers who, to-day, in city and country, are sleeping in rooms with their windows well open the year round, or on the verandah and in other cases in shacks and tents on the lawn. This may be getting back to primitive life, but it was then that, shorn of the luxuries of the twentieth century, people enjoyed good health and lived to a good old age.

Our warmly heated houses, the convenience of street cars and other present-day ways of living have at least told on the health and longevity of the race.

The value of fresh air as a curable agent is recognized by the general hospitals of the land to-day as never before. The older hospitals are being remodelled, so as to permit of extended verandahs and other means, by which a convalescent patient can, as quickly as possible, be wheeled out in bed or chair and allowed to drink in the health giving medicine and ozone of nature itself.

In the newer hospitals, as they are being built, ample accommodation is being provided for fresh air treatment of patients of many different classes.

It is open to the individual everywhere to live the fresh air life more than he does to-day.

WHAT MIGHT HAVE BEEN

THE song of Maud Muller, "What Might Have Been," has a melancholy refrain. It is the song of many—the song of numbers to-day, sad to say, who find themselves afflicted with tuberculosis.

A Toronto newspaper commenting on conditions that go to increase the death rate from consumption instances a case in this city to-day of a fair young girl, battling against this dread disease, with strength of a once splendid constitution, but the odds are all against her and each succeeding day finds her cough increased and her strength proportionately diminished, all because a tickle of the throat eight months ago was not taken seriously by idolizing relatives, who would have moved heaven and earth had there been any tangible cause for alarm.

Those who are associated with the management of sanatoria for consumptives have this fact brought daily under their notice. It is a common occurrence for a person to make application on behalf of themselves or their friends for admission to a Sanatorium for Consumptives, remarking that it is only now that they had learned that this dread disease was making inroads on their constitution. A careful examination would have shown that months previously the disease had taken hold of the patient. It was a case of neglect sometimes and at other times we are afraid that the physician was blamable.

So soon as there is the slightest suspicion of trouble, let there be a careful examination made, and if the evidence is there, do not put off applying an intelligent remedy.

Winter.

There was never a leaf on bush or tree,
The bare boughs rattled shudderingly ;
The river was dumb and could not speak,
For the weaver Winter its shroud had spun;
A single crow on the tree-top bleak
From its shining feathers shed off the
cold sun.

—Lowell.

Woodman, Spare That Tree.

O hemlock tree! O hemlock tree! how faithful
are thy branches!
Green not alone in summer time,
But in the winter's frost and rime!
O hemlock tree! O hemlock tree! how faithful
are thy branches!

—Longfellow.

The Communicability of Tuberculosis.

By W. J. DOBBIE, M.A., M.D.C.M., PHYSICIAN-IN-CHARGE, TORONTO FREE HOSPITAL FOR CONSUMPTIVES.

IT is now generally conceded that pulmonary tuberculosis, or as it is usually termed, consumption, is a communicable disease. Formerly it was the general belief that the disease was hereditary. And even at the present time echoes of this conception are sometimes heard. Frequently people are heard to remark that they cannot understand how a certain person came to have the disease, "because there never was any such trouble in his family." And such a misconception on the part of the laity is of course pardonable when it is remembered that the frequency with which tuberculosis has been met in the family history of those affected is a circumstance, perhaps, which has contributed in a very great measure to the belief in the hereditary transmission of the disease. By those of course who attach importance to such a circumstance it is usually forgotten that children of an affected parent are usually very much exposed to accidental contamination, and have as well to fight against the handicap of the inheritance of tissue of low vitality. Among medical men, however, the hereditary theory has been abandoned. The disease is now known to be transmitted not from father to son by inheritance but from one person to another by contagion.

THE PRIMARY FACTORS

in the spread of the disease are two in number. Caused as it is in the first instance by a small vegetable micro-organism, the tubercle bacillus, the disease is propagated by the transmission of the germ from one person to another. From it comes all the infection. In the pus of the tuberculous sore, or in the sputum from the diseased lung, it is the tubercle bacillus which conveys the disease and every person infected with tuberculosis becomes on this account a centre for the spread of the disease unless adequate measures are adopted to prevent the dissemination of the disease producing micro-organisms.

It is to be remembered, however, that while the disease germ may be inhaled by anyone almost anywhere, the disease itself cannot be communicated to any who are in a good condition of bodily health. It is only those with tissues of low vitality or constitutions of poor resisting power who become the victims of the disease. The germ must have for its development a favorable soil and it is only when such has been prepared and is present in the form of what is known as a run down condition that there is any danger of the disease being contracted. Everything, however, which tends to produce this condition contributes likewise to the spread of the disease.

THE METHOD OF TRANSMISSION.

The process by which this transmission of the germ takes place is a very simple one and one which can be very easily understood. The bacilli are contained in the material discharged from a diseased lung, often to the number of many billions in twenty-four hours. This expectorated matter, or sputum, as it is called, is carelessly deposited in various places by the very prevalent and disgusting habit of spitting, or by the common practice of discharging expectorated matter into a handkerchief, carried in the pocket or placed beneath the pillow. Thus exposed to the air it soon becomes dry and is then taken up into the atmosphere, carried here and there by air currents, and of necessity inhaled by all, whether they will or not. Or it may be that the sputum is carried while moist from one place to another and it is possible in this way for it to be ingested. This method of transmission is not of course common, because it is only when the sputum has been carried into the mouth directly either from the hands or from food which has been contaminated, perhaps, through the agency of flies, that there is any danger of infection in this way.

The common method of infection is that by inhalation, and the chief danger lies in the germs of the disease as they are contained in the dried sputum.

That infection by inhalation is the most common method by which the disease is spread is shown by the fact that primary tuberculous lesions are in a majority of all cases connected with the respiratory system, and further proof is furnished by the greater prevalence of tuberculosis in institutions in which the residents are confined and restricted in the matter of fresh air and a free open life—conditions which would favor on the one hand the presence of the bacilli in the atmosphere and on the other lower the vital resistance of the individual. In this connection it may be mentioned that the mortality among persons confined in prisons has been shown to be four times as great as that among people living outside, while the death rate from consumption among certain religious orders is a further illustration of the same point.

ENVIRONMENT

is a very important predisposing factor. Dwellers in cities are much more prone to the disease than are residents in the country, because not only is the liability to infection very much greater, but the conditions of life are such that the powers of resistance are apt to be materially weakened. Darkness, dampness, and close foul air are most favorable for the preservation of the life of the

disease germ. In addition they undermine the general health so that disease may find a ready entrance. Ordinarily houses have windows that ornament, but admit neither light nor air. Parlors are gloomy, living rooms dark, and bedrooms poorly lighted and badly ventilated. Everywhere the value of sunlight and fresh air as natural disinfectants is underestimated. The former is doubly effective, acting both as a natural tonic to the system and a destroyer of the tubercle germ, and it is absolutely necessary if a good standard of health is to be maintained and if houses are to be healthful places in which to live, that the action of direct sunlight should not be regarded as something to be avoided. The neglect of ventilation is equally common, especially during the winter months. So much so that life in over heated and badly ventilated rooms is the rule rather than the exception. And to illustrate the injurious effects of such a mode of life it is only necessary to refer to the now well-known experiment of Trudeau. He found that rabbits inoculated with tuberculosis if confined in a dark damp place without sunlight and fresh air, rapidly succumbed, while others treated in the same way but allowed to run wild, either recovered or showed very slight lesions.

CUSTOMS AND HABITS.

Many conditions, customs and habits are to be found in homes, places of business, and in places of public assemblage which aid in the dissemination of the disease germ. Cleanliness, ventilation, drainage, comfort and convenience are the natural enemies of the disease and yet in the very places where these have been most carefully provided for

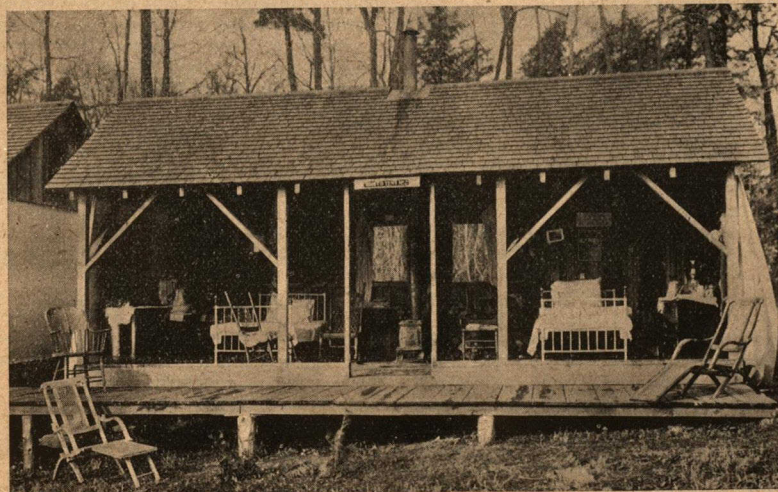
there lurk unsuspected or unheeded some of the most effective agents for spreading the disease germ.

THE SPITTING HABIT.

Of all the habits commonly practised none is productive of more dire results than is that of spitting carelessly and promiscuously. Everywhere are to be found the evidences that this habit is commonly practised, and when it is remembered that almost every consumptive spits as a matter of necessity and that hundreds of consumptives are walking our streets daily in the regular course of business, it is not difficult to appreciate the danger to every member of the community arising from the prevalence of this habit. Spitting is the starting point of all the evil. Anything else that may be described can at best be but a contributing cause, the danger arising from which would be so small as to be hardly worthy of consideration, were it not for the infection which lurks in every piece of expectorated material from a diseased lung.

DUST

Every condition or custom, further, which in any way fosters the accumulation and dissemination of dust intensifies the evil already existing. All kinds of dust affect the mucous membrane of the mouth, nose, throat and deeper organs of respiration, predisposing to tuberculosis and other infective diseases by producing a slight irritation, with subsequent inflammation. And it may be said of the broom and the dust brush that they are directly responsible for many deaths from this disease. How familiar we all are with the method by which



INTERIOR OF ONE OF THE TENT COTTAGES OF THE MUSKOKA HOMES
FOR CONSUMPTIVES

the careful and industrious housewife cleans her rooms. Usually once a week, the mistress and her daughters, or the maid servants, as the case may be, cover their heads with a towel or a more or less fancy dusting cap to keep, as they say, the dust from getting into their hair. Thus protected, as they imagine, they proceed vigorously to apply the broom to the carpets or to the floors. Soon the air of the room is filled with dust so that it is almost impossible to see. After it has been thoroughly stirred up it is allowed to settle and the process of "dusting" is begun. During the whole operation, lasting from a few hours to a day or more, the mouth and nose have been left uncovered so that the germ-laden dust has free access to the lungs, into which it is freely inhaled as the active exercise causes the worker to breathe more deeply and more rapidly. Without doubt the carpet or the floor has had deposited on it during the week disease germs of some kind which have been carried in from the streets.

In this connection one of the experiments of Cornet, of Berlin, is specially interesting. He spilled sputum from a tuberculous patient upon the carpet of a room in which he placed forty-eight guinea pigs. After allowing two days for the drying of the sputum he swept the carpet with a rough broom to stir up the dust to be inhaled by the guinea pigs. Forty-six out of the forty-eight contracted the disease. This experiment forcibly illustrates the danger there is in the careless habit of expectorating on sidewalks, in street cars and other public places, and demonstrates that the practice of dry sweeping and dusting is a contributory source of danger.

So often while on the street the shoes come in contact with freshly expectorated material. The chances that it is tubercular are many. This infective material is carried into the house or into the store or workshop, there to be transferred to the floor or carpet, from which later, having dried meanwhile, it will be stirred up in sweeping or otherwise. In like manner the long skirt sweeping the sidewalk and the roadway not only collects the dust but must, from time to time, become smeared with sputum deposited by the filthy habits of the careless. This skirt drags over the carpets and rugs and deposits as it does so a portion of the material collected on the street. The remainder is stored with the skirt in a dark closet until a convenient time arrives for it to be thoroughly brushed and shaken, when the germ-laden dust is scattered throughout the house. And of course there are some who will say that these dangers are imaginary and yet one observer employed a number of women to wear long skirts through a city street for an hour; at the end of that time a thorough bacteriological examination was made and each skirt was found to have picked up tubercle bacilli and other organisms.

In spite of every care much dust, laden with the germs of disease, is always on the floor, and there is in this a very special and grave danger to children and it should be an absolute rule never to put a baby or young child upon the floor to play, as is so generally the custom. There should be a baby's floor-cloth, which can be spread upon the floor at any time, made of some material that can be readily kept clean.

THE HANDS

Another source of infection, not only in the case of tuberculosis but also of other infections as well, is the common habit of taking food during meals, or at other times, without washing the hands. Among refined people, of course, this does not often obtain, but some are often careless; and in the case of children too much care cannot be taken in this respect. Numbers of working people and business men neglect this precaution; the bank clerk takes his lunch while counting dirty bank bills and the merchant or store-keeper have only sufficient time to snatch a hurried lunch at the nearest restaurant, while the man who carries a dinner pail would think it folly to take the trouble necessary to protect himself to this extent.

HOUSES

Tuberculosis is essentially a house disease. There it is most easily implanted and there, too, it is most readily propagated, because in houses, workshops, stores, theatres, churches, schools, railway stations and the like are to be found the conditions which favor its spread. Studies in regard to the distribution of the deaths from tuberculosis in a single city ward in Philadelphia, covering a period of twenty-five years, have shown that 33 per cent. of infected houses have had more than one case. Less than one-third of the houses became infected in a quarter of a century and yet more than one-half the deaths from tuberculosis in a single year occurred in those infected houses.

THE WORKSHOP

Next to the house the place in which consumption is most frequently contracted is the workshop. As the disease is insidious in its onset and often slow in its progress many are able to follow their usual occupations for months, and even years, after the development of the disease. The sputum of these tuberculous people may contain millions of germs and yet their custom or habit is to spit wherever it may be convenient, and, as a result, the disease is spread. Naturally some occupations are more important factors in the transmission of the disease than are others. Those which expose the worker to much dust are especially dangerous in that the dust acts as a carrier of the disease germ, irritates the lungs and air passages and renders them an easy prey to the bacilli. Of workers in trades

where no dust is produced, about 10 per cent. fall victims to tuberculosis, whilst among those who have to deal with dust producing articles the proportion is twenty per cent.

The occupation from which the largest number of consumptives come is housework, and other occupations for females which contribute largely are those of factory hand, weaver, seamstress, laundry worker and store employee. The occupation for males standing at the head of the list is that of laborer, probably because men who follow this occupation have all kinds of rough work to do, are poorly paid, poorly fed and poorly housed, and live in poor environments. Other occupations largely represented are tailor, clerk, cigar maker, salesman, printer and shoemaker. Each suggests a certain standard of sanitary conditions. Another group of occupations is noteworthy on account of the fact that from exposure, association or hard work there is a marked tendency to the use of alcohol on the part of those engaged in them. To this group belong the occupations of driver, waiter and bartender. Still another group exposes the worker to the inhalation of irritating substances given off in manufacturing processes. Such are mill hand, weaver, machinist, iron worker, upholsterer and leather worker.

In many instances the trouble lies not so much in the occupation as in the unsanitary and unhygienic conditions prevailing in the place in which the work is carried on. All working places are not to be stigmatised but any shop which is not well lighted, freely ventilated and properly cleaned, which has not sufficient air space for each person and in which there are not the proper kind of cuspidors in sufficient number, with rigid rules against careless spitting, is contributing its share towards the dissemination of the disease.

STORES.

Salespeople are daily exposed in greater or less degree to the contagion of tuberculosis. Customers suffering from the disease carelessly cough over the goods under inspection. The expectorated material lodges in the goods, dries, and is subsequently inhaled when the wares are again handled. The constant presence of a consumptive behind the counter is, however, a much greater

source of danger. In a case under treatment at the present time the history has been carefully traced backward through a period of six years and the source of contagion discovered at a time when the patient worked as a salesgirl behind a counter at which there was as a worker in a like capacity a woman suffering from the disease whose custom it was to expectorate freely on the floor behind the counter. Another danger to store employees depends on the conduct of the store itself. Often the admission of sunlight is unknown, ventilation is frequently inadequate, cleanliness is sometimes neglected, or the methods in use are vicious, antiquated or inefficient.

THE SCHOOLS

Schoolrooms, too, are often agents in the spread of the disease. Statistics show that about 27% of teachers die of tuberculosis. In school-children, tuberculosis of the glands, bones and joints is very common. And even if it could be shown that schools are not places in which the disease is apt to be acquired, they certainly are suitable places for the preparation of the soil. In many cases the construction of the school buildings is faulty. Rooms are poorly lighted and more poorly ventilated. Overcrowding prevails so that the air space allotted to each pupil is inadequate. Often the rooms are either too hot or too cold. Dust accumulates laden with the material shaken from a hundred feet. Every day it is driven from point to point both by the brooms and dry-cloths. Children are overworked both in school and at home, and, in many cases, instead of being educated for a life of usefulness, they are prepared for one of chronic invalidism or for an early grave.

The same things hold true regarding railway trains, street cars, stations, waiting rooms and public places everywhere. In these places are found all classes of people. Some expectorate freely and carelessly. Some who expectorate are diseased. And so the disease is spread.

To summarize then it may be said:

- (1) Consumption is not hereditary.
- (2) Only people in poor health contract it.
- (3) The germ is in the sputum.
- (4) The proper care of the sputum renders the consumptive harmless.
- (5) No spit—no consumption.

Concrete Evidence of Curability of Consumption

"To believe that consumption is a curable disease one has but to consult the statistics furnished by the large sanatoriums. From any institutions which only receive patients in the very early stages of the disease, seventy to seventy-five per cent. were discharged cured."—Dr. Henry P. Loomis.

A NEW DISCOVERY IN MEDICAL SCIENCE THE OPSONIC THEORY

AT the opening of the present term of the medical faculty of the University of Toronto, an address of great interest to the members of the medical profession was delivered by Sir Almroth Edward Wright, of St. Mary's Hospital, London, England. In this address Dr. Wright described in more or less detail the nature of some discoveries which he had recently made, and explained what he has been pleased to term the "opsonic theory."

It has long been known that the blood while in the body has the power of resisting to a certain degree the disease producing action of germs, in spite of the fact that when it is removed from the body it proves to be a good medium for their growth. This resisting power possessed by the blood was believed to be due to the ability of the white corpuscles of the blood to pick up, kill and digest the invading microbes.

Dr. Wright found, however, after numerous experiments that when bacteria and the white corpuscles of the blood were mixed, the white blood corpuscles had no power of digesting the bacteria. When, however, the serum or fluid of the blood was added to the mixture of white blood corpuscles and bacteria the process of digestion went on. He inferred, therefore, that there was some resisting influence in the serum or fluid of the blood which altered the bacteria so as to make them palatable for the white blood corpuscles. This resisting influence of the fluid of the blood Dr. Wright was pleased to call "opsonin." It was further found, however, that, in the case of a patient afflicted with bacterial disease, the blood serum was much less active in preparing bacteria for digestion by the white blood corpuscles than was the blood serum of a person in health. And by an ingenious technique Dr. Wright has made it possible to estimate the activity of any particular blood serum. As a result of this the activity of the serum of a person suffering from a bacterial disease, as compared with the activity of a normal serum, came to be called by him the "opsonic index."

It then suggested itself to Dr. Wright that it might be possible to devise some means

whereby the resisting activity of the blood serum might be increased. In the solution of this problem the principle of vaccine was employed. Cultures of the infecting bacteria were made and devitalized at a comparatively low temperature, so low that, though their life was rendered extinct, the chemical constituents of their protoplasm was not materially altered. With this vaccine patients suffering from bacterial disease were inoculated, and it was found that the "opsonic index" was in a few days considerably increased, or in other words that the



DR. GEORGE W. ROSS, JUN.
Who has been conducting the "Opsonic" experiments at the Toronto General Hospital.

injection of the vaccine promoted the formation of some chemical compound in the blood serum, and this compound or "opsonin" had the power of preparing the invading microbes for digestion by the white blood corpuscles.

The importance of these observations is clearly seen. In the treatment of bacterial diseases definite lines are to be followed in each case. First, the specific germ which causes the disease must be determined. Second, the patient's "opsonic index" must

be found, that is to say, it must be possible to determine the exact resisting power of his blood serum as compared with the resisting power of the serum in a normal healthy person. Finally, the resisting power must be increased to the proper degree by the inoculation of the patient with the proper vaccine, for it has been found that the raising of the "opsonic index" depends upon the quantity of vaccine with which the patient is successfully inoculated. Thus the new method proceeds along definite lines in each case. There is no guesswork as to diagnosis or remedy, the extent of the disease and the amount of the remedy required being capable of exact determination.

Since the delivery of the lecture on this subject by Dr. Wright, some interesting experiments have been conducted at the Toronto General Hospital along the same lines, and it is interesting to note that a Toronto Hospital has been one of the first on the continent to experiment in connection with this latest advance in medical science. The experiments here were inaugurated by Dr. G. W. Ross, son of Hon. G. W. Ross, who was chief assistant to Dr. Wright

during the progress of his investigations, and have been carried out by Dr. A. H. Caulfield of the Hospital staff, who, it is understood, will shortly go to England to assist Dr. Wright, and to gather more information on the subject. Dr. Ross, it may be said, is now at the Rockefeller Institute in New York giving instruction in this new method there.

It is hoped that the new method will be applicable in time to all germ diseases, and while the outlook is promising, it is well to remember that it is as yet but a theory, and that it must of course as such be put to many practical tests before it is accepted as a recognized form of treatment or as an acknowledged cure for diseases of bacterial origin. So far, only a few diseases have been treated, but those who are conversant with the method are confident that diphtheria, scarlet fever, and all other diseases due to microbes can be accurately and successfully treated by it, including even that most widespread of all diseases in this country, tuberculosis. In the case of this disease, however, it is believed that it will be used not alone, but as an auxiliary to the methods now in use.

OUR BOOK TABLE

AS we are about closing our forms, there comes to our hands two recent books from the press of the Copp, Clark Co., Limited. One is entitled *Prisoners*, by Mary Cholmondeley, who has written *The Red Pottage* and other books. The seat of the story is in Rome. It is a love-story of a somewhat tragic character throughout. Fay, the heroine of the story, is a pretty girl and this is probably her weakness. She is a rather negative character and delights in being pleasant to everyone. This element gets her into trouble. She marries a man she does not love, whilst at the same time she thinks she loves another, whom she later tells that she does not love. Then she becomes engaged to a brother of the second man. This is rather too much for a modern young lady to carry safely through, and the result is that there is trouble all round, and each in his turn finds that she is not very true. For an evening, as a book of light reading, *Prisoners* will be found interesting. It is

written in a style that is likely to carry the reader easily through its pages from beginning to end.

From the same publishers we have *The Dream and The Business*, by John Oliver Hobbes (pen-name for Mrs. Craigie). This writer's books are always interesting to Canadians. The present is a posthumous volume, published after the death of the author. It will be found worth reading, as has usually been the case with Mrs. Craigie's books. Typographically these two books are creditable to the Copp, Clark Co. Taste-

**For American Beauties, Violets,
Orchids, etc.**

try

JENNINGS

123 King St. West, - TORONTO

Floral Designs

Phone Main

a Specialty

7210

fully bound in cloth, we are told they are proving popular books of the day on the booksellers' counters.

That 30,000 copies of the first Canadian edition of *The Doctor*, by Ralph Connor, should be printed and that the United States publishers have printed 100,000 copies, besides an English edition of 25,000—and the demand is not yet met—attests in concrete form to the interest that attaches to the books of this now famous author.

With the printers waiting to close up this issue of CANADIAN OUT-DOOR LIFE we have not room to review *The Doctor* at length, but it is written in the author's own attractive style and is a book that everyone will read with interest. Like some others of Ralph Connor's books, this, again, is a story of the Rockies. The Canadian publishers are The Westminster Company, Toronto, Canada. The book is creditably printed and attractively bound.

Origin of the Staghound

IN the early middle ages the staghound had his origin in the forests of Ardennes. There the monks of St. Hubert bred the hounds, which were the foundation of our modern packs. Two races similar in build and appearance, but different in color, took their origin from the Benedictine monastery in the Ardennes. There was the black St. Hubert, slow, deep-voiced, ponderous, and always staunch to the line; and the white St. Hubert, with an equal gift of tracking man or beast, almost if not quite the same rich tones in his voice, somewhat lighter in build and swifter of foot. This latter variety it was that laid the foundations of the royal kennels of France, which received year by year a tribute of hounds from the kennels of the monks of St. Hubert. The same white hounds were brought to England by the head of the Talbot family, and, rapidly gaining credit for their qualities in the chase of the stag in the forests of England, were known as Talbots. These hounds are the foundation stock from which was built up with the aid of many crosses the old English staghound, and his modern descendant, the foxhound. In the year 1825 the last pack of English staghounds was sold to go to Hungary. They were the representatives of the old Talbot, but about the time of the Stuarts they were crossed with the hound of Normandy and Vendee. Indeed the pictures of the old English staghound as he was in the early years of the nineteenth century greatly resemble the hounds of Vendee. This last is supposed by French writers to be the descendant of the white hounds of the royal kennel of the house of France. French authorities believe that these royal hounds were crossed with the greyhound to give them speed, and with the pointer to give them quickness and dash in their work. Those writers who, like Collyns, had seen

and heard the old hounds hunting in the deep combs of Devon and Somerset, or followed them as they swept over the grass and heather of Exmoor, describe them with regretful admiration. They were tall, powerful hounds, standing 28 inches at the shoulder; they had large and noble-looking heads, their ears were placed lower than those of our foxhounds, and the skin of the ears was soft and fine. The whole carriage and appearance of the staghound resembled—as was natural, considering their common origin—the bloodhound. They had the broad open nostrils of the Norman hound, with which, as we have seen, they had some consanguinity; they were fine of nose and deep of tongue, and their rolling music could be heard for miles over Exmoor. The prevailing color was white, with splashes of lemon. From their Vendean ancestors they derived the gift of holding without change to the foil of the hunted deer. They had great steadiness and perseverance, yet I think that the length of the chases in their day showed that these old staghounds were not so fast as the foxhounds of our time. Not that the staghound was much slower on a scent than the foxhound, but was more leisurely in his work and less intelligent at a check. The pace of a modern pack of hounds is, if we may put it so, in their minds. They think so quickly, and make up their minds with much more rapidity, that their cast is made and the line recovered in less time than it took the old hound to think what he would do next. Yet, although the old staghound has long since disappeared, he was undoubtedly, in the case of the famous pack of the Duke of Beaufort and many others, the ancestor of the modern foxhound. We find traces of this especially among the larger hounds of a foxhound kennel, in the instances of reversion to staghound type and methods.

—T. F. Dale, in *Blackwood's Magazine*.

"Tuberculosis may be practically stamped out."

—Dr. Herman M. Biggs.