

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

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Michael—The Story of a Consumptive

By GEORGE RANDOLPH CHESTER, in *Munsey's Magazine*

WRITHING, scintillating snakes of white-hot iron shot one after another out of their rolls, to come sliding lithely and rapidly along the floor toward Michael Dyer all day long, like things of malignant life. It was Michael's duty to grab these searing bars with a pair of tongs and guide them into the next set of rolls, through which they emerged longer and thinner and still more lithe, for another agile man to handle. But with that man Michael had no concern; it was upon Dan Lennon—working next to him down the dim aisle, which, like a dream of the inferno, was shot throughout its interminable length with these vivid, crawling streaks—that he turned his gloomy eyes in the occasional pauses when, for some reason or other, a beat or two was missed in that rhythmical procession of angry metal.

The cause for his somber speculation was presently revealed when Dan was attacked

by an acute paroxysm of coughing—a seizure that shook him violently from head to foot, that made him gasp and struggle for breath, and, stooping, huddle his shoulders together for escape from that intolerable pain in his chest. His next bar was already gliding swiftly on the way. Behind it was not only the force of the ponderous rolls, but the power of irresistible commercial organization that forced it through whether men lived or died; and it could not be stayed. Already it was nearing the point where it must be handled, and Dan, gaging it through his strained eyes, staggered toward it, though he knew that if he jerked or even wavered in the handling of it and swung that flexile brand against himself for but a passing touch, it would hiss its way to the bone.

Before he could reach it, however, Michael was there and had pushed him aside. His own bar was six feet behind Dan's, and by agility extraordinary in one so big he had



ADMINISTRATION BUILDING AND PATIENTS' QUARTERS AT TORONTO FREE HOSPITAL FOR CONSUMPTIVES

the fiercely glowing heads of both rods clamped in the jaws of their next torture.

For a brief moment, in which those two white lines trailed their scorching length from roll to roll, the two men stood side by side in almost painful contrast; Michael, brawny, erect, his bulging arms at crooking ease, his broad breast bare and running rivulets of perspiration; while Dan, though his lean arms were knotted with powerful muscles, was stooped and thin and narrow-chested and cadaverous of cheeks, upon which, however, there shone spots of bright red, while his large eyes glowed as if with inward fire. A nod, expressive enough, had been his thanks for the service—one of many—that had just been rendered by his friend; and now a short cough, an after-irritation remaining from the previous spasm, shook him, and his hand came involuntarily to his chest.

"I'm afraid it's got me," he said, glancing up at Michael, and his eyes were full of fear.

"You're crazy with the heat," responded Michael roughly, and went back to his station, but in his heart he felt, too, that "it" had "got" Dan Lennon.

It! They seldom alluded to the White Scourge by its right name in the mills. They held it in too much awe, for sooner or later the dread malady laid most of them low. It was said on the outside that the average length of vigorous life on the rolls was about five years; but they of the rolls refused to believe it, since they could point to men who had been there ten and fifteen years, and even more. But when the perspiration no longer came freely during the work, breaking out at night instead, they knew that it was time to be careful to button up undershirt and jacket when one started home—and this was the very height of absurd precaution.

Dan had reached far beyond that point, and in the past week abject terror had fastened upon him. Another attack of coughing seized him on the road home, and he had to stop, setting down his dinner-pail and holding both his hands to his chest. When the paroxysm had passed, for the second time that day he spoke of it.

"It's got me, all right!" he panted, wiping his smarting eyes.

"You make me tired," responded Michael. "It's a bad cold you've got; a summer cold's fierce to get rid of."

"I don't know," replied Dan, shaking his head doubtfully, willing to clutch at the hope, but knowing it to be futile. "I've been eight years on the rolls, and I'm due."

"You talk like an old woman. There's a dozen more years of good work left in your carcass, and if you'll save your money you can quit and take it easy then. Button the top buttons of your jacket."

Michael's blouse hung straight from his shoulders, and his breast was exposed in a deep V where his open undershirt rolled

back, but he stopped determinedly, with a solicitude that was at queer variance with the roughness of his speech, until Dan had buttoned his own to the throat. They went on in silence for a few moments, each busy with the serious problem that confronted the smaller man.

"Save money!" Dan suddenly blurted. "That's a joke. How can I do it with one of the kids always sick, and the strikes and the lay-offs?"

Michael was silent. He had in mind certain periodical debauches of Dan's that had cost not only money but spells of "sickness" which had meant loss of income. Evidently the same thing was in Dan's mind, too, for presently he went on in a tone that had become querulous.

"Of course, you're right, Mike. I ought to save money before I get knocked clean out, for if I don't I never can pay you back what I owe you."

Michael was deeply hurt, but it was of a piece with his broad gentleness that he did not show it.

"Forget it!" he growled. "What's the difference if you never pay me? You can have more if you want it."

"I'll pay you, never fear," returned the other, in whom the obligation evidently rankled. "The worst of it is, I can't let Fanny know."

"She never will, so shut up about it," returned the other with a trifle of impatience, for this phase of the question had been presented to him over and over in discussions that Dan had insisted upon bringing up.

Michael's impatience was of short duration, however. He remembered the time, not so far back, when Dan had no trace of this peevishness, when an obligation to his nearest friend would not have set upon him like a curse; and Michael's friendship was of that type which knows no change and no faltering. He was one of those not uncommon men who, stronger in body and heart and soul than they need be for their own protection, gravitate irresistibly toward some weaker nature to shield it and bolster it up; who are unhappy without responsibility; who, mastiff-like, must have the dependent and the helpless to provide for and to guard. For years he had clung to Dan with a blind devotion that overlooked all the man's weaknesses and condoned all his offenses; and now, with a sigh, he accepted this new change in his friend as only another misfortune to be pitied and to be borne with. Dan himself knew that he was changed, and the knowledge of it made him but the more fretful.

At Dan's gate neat Mrs. Lennon met them, and Michael paused to exchange a pleasant word with her. She was heartily glad to see her husband's friend, as she always was, for he had been their bulwark through years of trouble, and she felt a debt of

gratitude to him that was beyond payment. Their greeting was no more cordial than it should have been under the circumstances, and neither one noticed the frown with which Dan observed them.

Michael paused but a moment at the gate, and then went on to his own tiny cottage, next door, where a twelve-year-old daughter had been his house-keeper and sole companion for half her industrious life. In the evening the two men sat out upon Michael's little porch with their can of beer, and for an hour or so Dan was more his old self than he had been for many, many days; but on the following morning he did not go to work. "It" had finally "got" him, and further pretense was out of the question.



ONE OF THE HANDSOME COTTAGES AT THE MUSKOKA COTTAGE SANATORIUM, THE GIFT OF LATE THOMAS MCCORMICK, OF LONDON, ONT.

II

WHAT the Lennons would have done without the stalwart friendship of Michael Dyer in this juncture it would be pitiable to conjecture; but with his simple stanchness the road was made easy. The pay of a roller is good, and Michael's purse was open to Dan throughout his long illness, while Nellie Dyer was scarcely second in her ministrations. She loved Dan's wife with that pathetic attachment of the motherless, and she was like a sister to the three small Lennon children, washing and dressing and feeding and taking care of them while Mrs. Lennon looked after her husband, who grew more peevish and fretful as time wore on, leaving him paler and more emaciated with each passing day.

In the evening, Michael always stopped in as soon as he came from work, to gossip with Dan about what had gone on that day in the mills; and both Dan and his wife grew to look for his coming as the most cheerful moment in their day, though often, after he had gone, and while the light of this cheering visit was still in his wife's eyes, Dan would lie in frowning silence.

It was one evening near the end, when his wife and Michael were standing together at his bedside, that the long-pent-up rebellion broke from Dan's lips.

"Strong and healthy, both of you," he complained bitterly, "and you're waiting; just waiting for me to get out of the way!" It was unjust; it was cruel! It was not

like Dan's self to have had that thought, much less to have voiced it; but he was warped and twisted all out of his normal mind by the wasting malady that had fastened upon him. Startled, the two standing figures glanced involuntarily into each other's eyes in affright, then turned hastily away as if they had been guilty. They were not. If in the secret recesses of their hearts they had felt an attraction each for the other that might have been freed by this tragedy which must necessarily bind them closer together, they had not known of it; and if any hint had crept into their understanding they would have recoiled from it in secret terror, for simple steadfastness was part and parcel of the lives of both of them.

Not one of the three realized this more acutely than Dan himself as soon as the words had passed his lips. Begging their forgiveness, in his weakness he turned his face to the wall and wept. They forgave him in all pity, but the words had been said; they could not forget them, and the shadow of them still lay between the two when they stood above Dan's grave—lay between them, the more when, later on, they came to realize that Dan had foreseen the truth even before they themselves could have known it. The blow was more cruel than ever, for they needed each other, these two, aside from what of love might have come to them, for Michael's daughter should have had a mother and the Lennon children a provider.

The problem for Fanny Lennon became a serious one at once. The eldest of her children was but ten, and she had no way to earn for them but by plain sewing, which was scarce and poorly paid. She could not accept of Michael's charity now, even in her direst extremities, and the knowledge of it cut him like a knife. That he should be

earning good wages, and have more than enough, while the wife of his friend, to say nothing of the woman whom he now could admit that he loved, was in dire straits, worried him by day and by night.

Forced by his distress, he spoke to her one evening when the children were playing together in the back lot; but, like his crude bigness, he spoke without a vestige of tact.

"You remember what Dan said to us by his bedside," he began; but he got no further.

With a piteous gesture Mrs. Lennon stopped him.

"Please don't let us talk about it," she begged him, and what further plea he had at heart froze upon his tongue. He could not know, with what sense of guilt, even though blameless, she remembered that charge against her faithfulness.

Thereafter Michael was more distressed than ever. He saw the Lennon children insufficiently fed, with plenty next door; he saw them insufficiently clad, while his own daughter had more than she needed; he knew the Lennon coffer to be empty, while his own useless money piled up in the bank. One evening, however, he came home with a lighter step than he had known since Dan's death.

"I guess you'd better have me to look after your property," he said gaily to Mrs. Lennon, stopping at her door.

"My property," she repeated wonderingly.

"Yes, your property. A fellow was down at the mills to-day hunting Dan up to see why he didn't pay his insurance. That was the first the company knew he was dead, and the first I knew he had any insurance. Did you know it?"

She was overwhelmed.

"Dan always did keep his money matters a secret," she reflected, however, and she managed to ask how much it was.

"Well, it ain't a lump sum," Michael answered her. "It's better than that; he insured himself so as to give you forty dollars a month. You're to get that for twenty years, and I guess by that time the boys can make a living for you. Here's your policy."

He gave her the folded parchment, and she read it with tears in her eyes. It was a thing that served to brighten Dan's memory, and she understood now why he had so often been short of money. It must have cost quite a bit to keep up this big policy.

Michael realized with a sinking heart that this put still another barrier between them, but none of the thought showed in his face.

"I told the fellow I'd attend to the business end of this for you," he informed her. "There's got to be papers signed, and they might cheat a woman. I'll draw your money for you," and thereafter he did.

He brought it to her in an envelope, four ten-dollar bills on the fifteenth of every month. The Lennon children were fed and clothed, and she even, by littles, paid back to Michael the debt she had incurred during her husband's illness. With what grim self-effacement Michael accepted this money and withstood the trace of independence that she wore, only he himself could know.

The color came back to Fanny Lennon's cheeks. Her problem of life was solved, and by her side Michael Dyer lived and grew more quiet and more reserved and more gray year by year, sternly repressing and giving up for all time to come the great yearning that had come to fill his heart.



PATIENTS OFF TO THE SHOOTING GALLERY AT THE MUSKOKA COTTAGE SANATORIUM
—A FAVORITE AMUSEMENT IN WINTER.

For now he knew that he loved her, that he would have loved her from the first had not his honor held his heart in check. He cried out in the night, sometimes, with the pain of his great longing. There was this difference between himself and the woman—her sense of honor and loyalty bound her even yet, blinded her and fettered her heart so that she *would not* know. Her only hint of the state of her sentiments was the significant one that Dan's cruel charge ran so often in her memory—and this she would not interpret!

III

AND so matters might have gone on, but that one day Michael made the mistake which he had escaped through all his service and got an ugly burn. For a week he was delirious in the fever that came of it. It was during that week that Mrs. Lennon, in the midst of her nursing of him, happened to remember that this was the fifteenth day of the month. Leaving her patient in charge of Nellie Dyer, she made her way to the office of the insurance company whose address she had found upon her policy. As her introduction she said that she had come to draw her money, and laid down her policy. The clerk picked it up and examined it in perplexity; then he frowned and took it back into the office, where he inspected books and files and records. He was still frowning when he returned to her.

"No policy was ever issued by this company in the name of Daniel Lennon," he informed her. "This paper is a rank forgery, so clumsy that it would be laughable if it were not criminal. Why, it is made out over an advertising sample of one of our policies, and you can see for yourself that the word 'Void' is printed clear across its face in big red letters!"

He kept the policy still in his hand. It was his evident intention not to give it back to her. Crushed and bewildered, she turned away, but a thought sent her again to the wicket.

"But I have been getting my money on it for nearly four years," she urged; "forty dollars every month."

"You have!" said the clerk incredulously. "Who has been paying you?"

"Michael Dyer," she answered, "a neighbor of ours. He lives next door. He was a friend of my husband's."

The clerk looked at her curiously, and presently he smiled.

"I shall have to keep this policy and look up the facts," he told her, still with that curious smile that had an unwonted trace of gentleness in it; "but I don't think just now that any prosecution will grow out of it. If Mr. Dyer has been handing you this money he must have been paying it out of his own pocket."

For a stupefied moment she looked at him aghast; then a crimson wave suffused her face, and turning away, she hurriedly left the office. Now that the clue had been given, she knew that the clerk's conjecture must be true. It was like Michael to do this big and generous thing—to give up to her more than a third of all that he earned, and never to let her know by word or hint!

She went home with her head in a whirl, and turning into her own house in a breathless panic of thought, sat down in the dim front room. What revulsions of feeling took place within her there, what tearing away of prejudices and ideas and habits of mental process that had hedged about her soul, she could not tell; but, no matter how it came about, she was a different woman when, a half-hour later, Nellie Dyer came running over, beaming with delight.

"Oh, Mama Lennon!" cried Nellie. "Papa is awake and in his right mind at last, and he's asking for you!"

The words thrilled her strangely, and suddenly she knew that in the half-hour in which she had sat alone she had gained an understanding of greatness, that at last she had a glimmering of the true bigness and tenderness of the heart of Michael Dyer. With a catch in her throat she hurried over and into that other dim room where Michael lay with his eyes turned wistfully to the door through which she might come. As she hurried to the bedside and caught his hand he smiled at her, and sighed his relief in her presence.

"It's so good to have you here," he said. "At our age, friends are not so many but that we miss them when we are in trouble."

"Friends, Michael! Friends?" and, suddenly sobbing, she knelt swiftly down with her arm across him and laid her warm cheek against his upon the pillow.

Not a single applicant has ever been refused admission to the Muskoka Free Hospital for Consumptives because unable to pay. Money is urgently needed to extend and carry on this work.

WHAT IS TUBERCULOSIS?

What this Terrible Disease is — Simple Facts about Consumption.

THE following is the first of a series of papers for the masses, designed to tell in simple, easily understood language the terrible menace that consumption is to the whole community and the simple steps that, if taken by the people, will result in the eradication of the disease. These papers are written by an expert member of the staff of the Pittsburgh Sanatorium for Consumptives of which Dr. William Charles White, an old Woodstock "boy"—a Canadian—is the Medical Director

TUBERCULOSIS is a disease caused by a microscopic plant which grows in the body of animals as other plants grow in the ground.

The seeds of this plant are exceedingly small, so small in fact that if 3,000 of them were piled end to end, they would make only one inch in length. One may arrive at an idea of how large a magnification this amounts to by mentally trying to pile 3,000 men one on top of another. This would magnify a man's length into something over three and one-half miles. With this minuteness of size present in the mind it will be easy to understand how easily these seeds may be carried, floating around on even the slightest breath of air. The current which one makes in breathing air into the nostrils is quite sufficient to carry these seeds far into the air passages of the body where they lodge and proceed to grow.

These seeds of tuberculosis are four to five times as long as they are broad and thus make short rod shaped seeds. For this reason they are called bacilli, which simply means short rods—that is, these seeds are called bacilli of tuberculosis.

WHERE THE SEEDS GROW

The bacilli of tuberculosis find the conditions necessary for their growth inside the animal body just as other seeds find the conditions necessary for their growth in the earth. When they get into the body in any way they begin to grow there just as a seed planted in the ground grows, and form inside the body a sort of fungus.

THE NATURE OF A TUBERCLE

The animal body by nature objects to being made a growing place for a plant and seeks through its body cells to stop the growth of the plant. This it strives to accomplish by packing some of its body cells tightly around

these invading plant seeds wherever they have lodged. In each case where the body cells are packed around these growing tubercle bacilli we have a small pimple inside the body, each one about the size of a very small pinhead and each one of these is called a tubercle, which means a small pimple.

There is an old saying that one swallow does not make a summer nor one grain of wheat yield a harvest, and it is also true that one tubercle bacillus does not give tuberculosis. A body to have tuberculosis must have a large number of these tubercles in it.

NUMBER OF BACILLI NECESSARY TO CAUSE TUBERCULOSIS

It has been reckoned by careful observation in a German laboratory that it takes 80 or 90 of these bacilli of tuberculosis to give one guinea pig tuberculosis and as it is a general law that the number of bacilli necessary to cause a certain disease is more or less directly proportioned to the weight of the body in which they are to grow it may be reckoned how many bacilli would have to gain entrance to a man's body to cause tuberculosis there. Surely it would require a great many more than for a guinea pig. Now, when one considers that there are in Pittsburgh 20,000 or 30,000 persons with tuberculosis, the great prevalence of these bacilli may be guessed at.

TUBERCULOSIS AND CONSUMPTION

When a great many of the bacilli of tuberculosis get into the body and form a large number of these small tubercles close together they often fuse together into one mass just as a large fungus may be formed by the fusion of smaller fungus growth. When this fusion occurs the mass that is formed starts to rot in the centre because the tubercles in the centre can get no more food as no blood vessels and no lymph vessels go to the centre of these tubercles. This rotting goes on faster as the mass increases

in size and finally burrows its way to the outside of the mass and begins to discharge. As an example: When these tubercle masses have formed in the lungs and the rotting has taken place and burrowed its way out the discharge gets into one of the air pipes and the person in whom it has occurred has to cough it up and spit it out. When this rotted stuff is spit up it is usually in the form of a yellow tough spit.

When this rotting process goes on in lung tuberculosis unchecked and large numbers of the tubercles have become massed together and discharging the tough yellow spit the condition becomes known as consumption. This means simply that the masses of rotting tubercles have consumed the space of healthy lungs that were formerly used for breathing purposes.

WHERE THE SEEDS COME FROM

One of the curious things about the rotting of the tubercles is that the seeds or bacilli that cause the tubercles do not rot and die with the rest of tubercle mass. Consequently when a person suffering from lung tuberculosis, for instance, begins to cough and spit up the rotted stuff the spit contains billions and billions of the living seeds that may cause tuberculosis in other people's lungs and bodies. Whenever this spit lodges in a place where it can dry and form dust the seeds that it contains begin to float around in the air and get into other

people's bodies, either in the air or on their food and cause new cases of tuberculosis. These spitting cases are, then, tuberculosis cases. In other words, consumptives are cases of tuberculosis gone to seed. The rotting may go on till quite large cavities in the lungs are formed and when this has happened the amount of spit is very large.

HOW LONG THE SEEDS LIVE

Botanists have known for a long time that life remains in dry vegetable seeds for very long periods, and if these seeds be planted again on the earth they will produce plants even after being kept dry for many years. The seeds of tuberculosis are no exception to this common rule of plant seeds, and will retain life for months at least, probably years, in a dry state, ready to produce tuberculosis again when once they find a suitable soil. Positive information is at hand that after five months these seeds were still just as able to produce tuberculosis as when they were first spit up.

The results of careful observations of spit which has been allowed to stand under different conditions, show that the seeds of tuberculosis which it contains retain their life best when the spit lies in a dark moist place, and taken up from such a place by currents of air or on clothing, have the greatest power to cause tuberculosis in others.

BAD PLACES TO SPIT

Consequently it is dangerous for others when a person with tuberculosis or consumption spits in dark places such as corridors of public buildings, rooms of houses, floors, street cars, and railway trains, closets, basements, cellars, etc. It is also very bad to spit on side walks, because women's skirts men's trousers and boots of all walkers may pick these seeds up from thence and carry them into their homes, where the spit dries



MR. W. J. GAGE, CHAIRMAN, INTRODUCING HIS EXCELLENCY EARL GREY AT OFFICIAL OPENING KING EDWARD SANATORIUM FOR CONSUMPTIVES.

and the seeds may then float in the air and get into the bodies of people.

WHAT WILL KILL THE SEEDS

Direct sunlight soon kills the seeds. Strong heat, burning and boiling, soon kills them and many poisonous fluids, such as carbolic acid and lye, consequently if one has to spit it is best to spit where the sun will get at it or into the stove or on some cloth or paper that can be burned or into a cup containing carbolic acid or lye, which can later be emptied into the sewer. This will, of course, always be done by those who think of their families or friends, as soon as they find out what is right, but some are so malicious that they boast that if they have consumption others can have it too, and so viciously spit anywhere.

TUBERCULOSIS WITHOUT SPIT

From what has been said above it will easily be seen that tuberculosis can exist without spitting. It is necessary for enough tubercles to be growing in the body to make a mass large enough to rot in the centre and for this to burst before one starts to spit. This may take months before it occurs, or it may never occur and the patient get well without knowing he has had this horrible disease, but sooner or later it may break out again. The cases that have tuberculosis without spit have usually afternoon tiredness, flushing of the face and fever, loss of appetite, loss of weight and maybe a little hacking cough, which may, of course, all disappear and be called malaria or something else or soon spit may appear, coming usually without cough into the back of the throat on rising, or after breakfast, and even then may get better or get worse with more spit.

TUBERCULOSIS WITH SPIT

When one suffering from tuberculosis begins to spit noticeably to himself or his friends, that one is usually pretty sick with the disease, and has lost a good deal of lung space.

WHY DOES A CONSUMPTIVE NOT FEEL WORSE?

One of the hardest things for a man with consumption to understand is, why, if he is as sick as the doctor tells him, he does not feel worse. He feels able to do some work and will not give up. Usually to his own destruction he keeps on working till he has to give up, then in a few weeks it is over and the priest and pallbearers take care of him. This lack of appreciation on the part of patients is mainly responsible for the difficulty in accomplishing the greatest good in this disease. A part of the same difficulty is that patients will insist against advice on going back to work too soon, only to relapse again. The reason the patients do not feel as sick as their loss of lung space makes them, is that the plant grows so slowly that the body becomes gradually used to carrying the extra burden and to the tiredness that accompanies it and hopes soon to shake it off.

EVERYBODY'S DANGER

While probably under existing conditions in Pittsburgh nearly everyone has a chance to take tuberculosis and probably 95 per cent of the people in Pittsburgh have had or will have it, in some form, it must not be thought that everyone will develop a case of tuberculosis that can be recognized even by skillful doctors. The fact is that the majority of cases get better and never know they have had it. But in Pittsburgh there are many thousands suffering from far advanced tuberculosis, who will never recover because they have not been taught how to overcome it, and these thousands are a menace as long as they are untaught to all the remainder of Pittsburgh's population.

PREPARING THE SOIL

Every piece of ground will not produce wheat, even though abundance of wheat be sown upon it. Much ground will only produce wheat when the ground has been prepared for the sowing. Some ground will produce wheat in the greatest abundance without any preparation. It is so with the human body and tuberculosis. In some bodies the seeds of tuberculosis will not grow at all. In other bodies, weakened by overwork, worry, loss of sleep, sickness, lack of food, lack of fresh air in the lungs, the ground is prepared for growing tubercle seeds, but if these cases be found early and be put under proper conditions, they soon get well. Also in some bodies if the seeds of tuberculosis find entrance they grow and grow and nothing will stop them and God's greatest creation yields and dies before the onslaught of his lowliest creation.

WHERE THE FIRST SEED CAME FROM

One is so often asked where the first seed of consumption came from. Was it floating in Eden? Of course the answer must be: "I don't know." Still the theory, based on evolutionary ground, is interesting. There is a seed that grows on grass, producing a fungus there called the timothy bacillus. This is very like the tubercle bacillus, and, of course, often found its way, like Tom Thumb, into the cow's stomach, and from the cow's stomach into her body in great numbers. Through years of living in the cow's stomach and body it changed its nature and developed the faculty of growing in this body and making tubercles; just as a man can accustom himself to living and working in the bowels of the earth or on the highest mountain tops, at the Arctic circle or at the equator. From the cow's body, in milk and butter, it passed to man's body and soon was able to produce tubercles there, and under these conditions the old timothy bacillus became known as the tubercle bacillus. Now it goes from man to man, as shown above, by those who already have it spitting the seeds up and these drying and floating around in the air and so into other lungs.

Canada, Be Glad

(The Opening of the King Edward Sanatorium for Consumptives, near Weston, Aug. 28, 1907.)

O Canada, be glad, be glad!

Behold yon' light—
A radiance tender draweth nigh,
A glory stealeth o'er the sky,
Dispelling night.

Dark, dark and long hath been the night,
O'er all the land,

To many daughters dear to thee,
Pale-veiled in wasting mystery
None understand.

A sweet girl graces yonder home,
Her cheek health-red;

The pale king comes and silent stoops,
He breathes on her, the fair rose droops,
And she is dead.

Ten thousand homes the pale king know,
And feel his breath,
Remorseless breathed as he goes by,
And joy and hope hoar-frosted lie
In withered death.

O Canada! hope, hope thou still—
The dawn has come,
A ray of gold has reached the sky,
A radiance healing draweth nigh
To every home.

On darkness dense the wasting plague
Shall prey no more,
The light to simple life has come,
The hopeless find a hopeful home,
As ne'er before.

God bless, thrice bless, the open hand—
Thy praise we sing;
And blessing be, with deathless fame,
On him that lends his gracious name—
God bless our King.

—GRANT BALFOUR.

Another Theory of Consumption

“A brand new theory of consumption has been propounded by Professor Forlanini of the University of Padua. According to his views, as expounded in two lectures recently delivered at a meeting of the Associazione Sanitaria Milanese, the notorious bacillus of Koch is comparatively harmless, causing at the worst some not particularly dangerous lesions in the early stage of tuberculosis disease. The more serious lesions are caused by the functions of the lungs themselves. In expanding and contracting they are subjected to differences in tension such as no other organ suffers. It is these changes in lung tissue affected by Koch bacillus that gradually destroy it. Consequently, to effect a cure, the lung which is first affected must be made motionless. Dr. Forlanini accomplishes this by filling the pleural cavity with air, and thus creating a pressure which neutralizes that of the air inhaled. The procedure is, of course, applicable only in cases where one of the two lungs is sound and strong. Details were given in the second lecture of thirty-two cases in which cures were effected by this method.”

Montreal Herald.

The poor consumptive in all parts of Canada sends in his appeal to be admitted to the Muskoka Free Hospital for Consumptives. Send your dollar to Sir Wm. R. Meredith, Kt., Vice-President National Sanitarium Association, Toronto, Canada, or to W. J. Gage, Esq., Chairman Executive Committee, 84 Spadina Ave.



THE FRESH AIR AND REST CURE AS ENJOYED AT THE MUSKOKA HOMES FOR CONSUMPTIVES.

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.

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

PROLONGING HUMAN LIFE.

DR. WILEY presents an interesting subject for speculation when he discusses the possibilities of prolonged human life as the result of the progress of medical science and improved sanitation. Infants under five years of age, he told a newspaper interviewer the other day, have about twice the chance of living now that they had twenty-five years ago. The average span of life of adults has been materially lengthened in the same period of time. Dr. Wiley is inclined to believe that some day the average length of human life, instead of the exception, will be three score and ten. Tuberculosis is the chief scourge of the race, and the one against which medical science has made slow progress, compared with the results achieved in some directions. But Dr. Wiley believes that the out-door treatment, coupled with the segregation of patients, will greatly lessen the inroads of this disease, and further aid in reducing mortality.

WAR ON TUBERCULOSIS.

THE earnest people who are constantly devising ways of warring on the great white plague will find some encouragement in the report given by an exchange of the results achieved in Prussia.

In that country, within the five years from 1900 to 1905, the mortality from pulmonary tuberculosis has decreased 10 per cent. In 1900 there were 21 deaths from consumption out of every 10,000 population, and in 1905 the proportion of deaths from that disease fell to 19 in every 10,000. This at first thought may not seem much of an improvement, but the same proportion of disease in the United States would mean the saving of about 17,000 lives a year. Besides, the encouraging feature is that if a decrease of 10 per cent. in the mortality from consumption can be attained in five years by the adoption of proper safeguards, with the concurrent education of the people in regard to the best means of preventing contagion, the cumulative effect of precautionary measures may be expected to be a steadily decreasing mortality from tuberculosis.

\$50,000 needed to extend the work for needy consumptives at Muskoka.

What is the Real Cause of Consumption?

THIS is seemingly a question yet unanswered by scientific investigation. It may be that this definite knowledge would not enable physicians to fight the disease any better than is already done. The discovery of the North Pole may not bring practical results of any moment, but it may, and hence it is well to try again, as daring navigators are doing. So with tuberculosis. Someone may yet find the essential cause, and thus lead to inestimable blessing.

"A German physician, Dr. Robert Hessen, has recently published the results of his researches concerning the real cause of consumption ('Die wahre Ursache der Schwindsucht'), which he ascribes to the checking of the purifying function of the pores of the skin. In support of this theory he records some interesting facts," says the *New York Nation*. "Fresh air and out-of-door exercise are important factors in the prevention of this disease. For this reason in England 1500 persons in a million die of consumption, whereas in Germany there are 2000, and among the

Russian peasants 3500. The latter pass the winter wrapped in sheepskins, near a warm fire, and rarely if ever wash their bodies. Dr. Hessen further says that young women, who are employed in stores to show furs and walk to and fro all day in these warm garments, usually suffer from phthisis. This was also the fate of the English comedians who some years ago masked themselves in hides in order to represent animals on the stage. Although these plays were very popular, the mortality of the actors from pulmonary disease soon put a stop to them.

"Dr. Daniel Diehl, the chief physician of the Hamburg-American Steamship Company, states in his book of travels 'An Bord und im Sattel' that Patagonians and other tribes who go naked are never consumptive; and the Norwegian zoologist and Arctic explorer, Fridtjof Nansen, in his volume 'In Night and Ice,' asserts the same of the Eskimos, who always go naked in their huts. Only in western Greenland, where the natives have been converted to Christianity and persuaded by the missionaries to wear clothes, does pulmonary disease prevail."

Husband Died of Consumption—Four Little Children—Now Mother has the Disease.

MR. GEO. STANLEY, Lucan, Ont.:—"I am instructed by the Prov. Sec. to write you re getting a patient into the Free Hospital for Consumptives. This woman, Mrs. Carroll, buried her husband a couple of months ago from consumption. Dr. Banting in our town diagnosed her case consumption. She is the wife of an oil man who peddled oil round here in his wagon. She has four small children. There is a little village property mortgaged so that she has no means at her disposal. Kindly state by return mail the necessary steps to be taken, to get her under proper treatment in the Free Hospital for Consumptives." It is for such cases as this—only one of many—that Sir Wm. R. Meredith, Kt., Osgoode Hall, Toronto, and W. J. Gage, Esq., 84 Spadina Ave., Toronto, ask your help. He gives twice who gives quickly.

IN YOUR WILL Remember the National Sanitarium Association, organized for the benefit of consumptives. The Association can legally receive any sum which may be given or bequeathed. The following form will serve:

I give, devise and bequeath to the NATIONAL SANITARIUM ASSOCIATION, in trust, to be applied to the Muskoka Free Hospital for Consumptives, the sum of \$.....

All information furnished by J. S. Robertson, Sec'y-Treas. National Sanitarium Association, 28 Adelaide St. W., Toronto.

Tuberculosis and the School Children

JOHN H. LOWMAN, M. D., Charities and the Commons

THE surprising statement that the mortality of the young has increased, and especially during the school age, requires the most serious and thoughtful consideration. This apparently new fact may not be due to an increase of the disease, but to a discovery. The technique of diagnosis has improved, the mind of man is more alert to the whole question, ideas of the pathology of the disease, especially as far as the lymphatic system is concerned, have changed, and consequently disease is detected with much greater precision. All this, true though it may be, does nevertheless not invalidate entirely the position that the danger of contracting tuberculosis increases with the age of the child and constitutes a peculiar and extraordinary menace during the school age. The great majority of children, says Grancher, who come to autopsy in the hospitals show tuberculosis of the bronchial glands not recognized during life. Naegeli of Zurich found that 33 per cent. of children had tuberculosis of the glands, and Comby that 37 per cent. were affected.

Regarding the danger of infection in school from this source accurate statistics are lacking. From Kirchner's tables it is deductible that the proportionate number of deaths generally increases during the school period. At the tenth year he finds that out of 100 boys who die, 9.28 die of tuberculosis and out of 100 girls, 12.02 die of tuberculosis. In order to decide definitely the matter, systematic examinations of children in various grades must be made in the same spirit as is done to determine the increase of myopia in the various higher grades.

In the children's clinic of the tuberculosis dispensary of Cleveland, 504 children, up to the ages of 16 who have been associated with a case of tuberculosis in their homes, have been examined. Thirty-eight or 7.5 per cent. have positive pulmonary tuberculosis. Sixty-four or 11.9 per cent. could easily become so affected under unfavorable conditions. In one school district of 1420 families, 572 families were visited and sixty-seven cases of adult tuberculosis found. In the fifty-seven houses in which these cases were found 151 children were exposed to infection.

It must, however, be admitted that infection would be more probable in the home, were a contagious disease there present, than in the school. The interchange of objects of personal use are constant in the houses of the poor, indeed all the conditions that favor contagion are there.

When the infected children are discovered they should be segregated in rooms by themselves in small classes and these rooms should be frequently cleaned and disinfected. As

soon as the tuberculosis cases are known and the pupils collected in special classes the actual work of protecting such children by positive measures will begin.

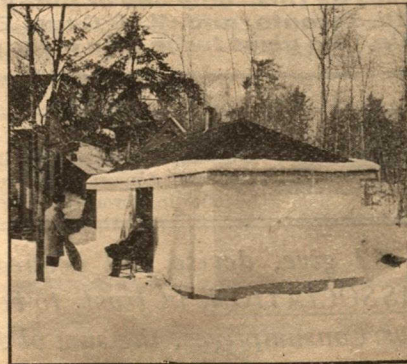
What we might call sanitarium schools in the suburbs, as has already been projected in Milan, with especially constructed buildings having wide verandas, would undoubtedly result. Such schools would lead naturally to forest schools, garden schools and all the various devices looking towards teaching in the open air.

The curriculum should be so ordered as to vouchsafe the child his full time of sleep. Cleanliness should be taught and inculcated by the baths installed in the buildings. Regular hours of eating at home should be insisted upon. Persistent coughs, especially following measles and grip as well as the slow convalescence of other acute diseases should be respected.

The fundamental principles of hygiene as applied to tuberculosis should be taught by the regular teachers to the children. A course of instruction should be given to the teachers themselves and to the scholars in the higher grades. Such courses have been given in the higher schools of Berlin and by Von Esmarch in the hygiene institute in Göttingen.

It is, of course, quite superfluous to dwell upon the importance of a working knowledge of the principles of hygiene. The practical matter is how to introduce such instruction into a course of study too crowded and too diversified.

Regarding the buildings and particularly the care of the rooms special reference should be made. School rooms should be disinfected at the end of each term; if not that often, certainly at the end of the year. No one should be asked to occupy a room year after year, five or six hours a day, with-



SHACK LIFE IN WINTER AT MUSKOKA HOMES FOR CONSUMPTIVES.

out an occasional true bacteriological disinfection. Fumigation with formaldehyde would not be sufficient; the walls must be cleaned or painted, the furniture washed and the floors treated with dilute solutions of chloride of lime.

All the buildings should be in free, unobstructed grounds in order to secure air and sunlight as well as to avoid possible disturbing odors and noises.

Vacation and sanitarium schools should be made a part of the organized school system. In the vacation colonies about Geneva, Switzerland, the state supplies the teacher while private philanthropy supports the school. At Sea Breeze a teacher is provided from the schools of New York. In Denmark where the outing vacations are so thor-

oughly systematized the teachers are supplied by the state. At present in this country the vacations of the children of the poor are most irregularly conducted.

Colonies of fifteen to twenty-five children should be organized during the school years, and placed together in the country under the surveillance of a teacher. A well organized tuberculosis dispensary with a children's department could give invaluable information for the organization of such colonies. This requires, however, a close co-operation between the municipal boards and the societies of private initiative, which does not always exist. Co-operation of all good and strong agencies is absolutely essential to overcome tuberculosis, which is the result of the co-operation of the evil tendencies and vicious conditions of human society.

The extent to which needy patients can be cared for at the Muskoka Free Hospital for Consumptives is limited only by the givings of the people. The bank account is to-day heavily overdrawn. Contributions may be sent to Sir Wm. R. Meredith, Kt., Osgoode Hall, Toronto, or W. J. Gage, Esq., 84 Spadina Ave.



“THE proceedings this afternoon commenced with a beautiful and reverent prayer from your old friend, Rev. Dr. Potts. He prayed that the light of the Lord might shine upon us. That prayer is abundantly answered. He also prayed that the White Plague might be removed. Well, whether that prayer will be answered or not depends upon yourselves.” —
Earl Grey, Governor-General of Canada, at the official opening King Edward Sanatorium for Consumptives.

All profits of CANADIAN OUT-DOOR LIFE, from subscriptions and advertising, will be devoted to the maintenance of patients in the Muskoka Free Hospital for Consumptives. Subscribe now and ask your friends to subscribe. \$1.00 a year.

FORWARD STEP

IN THE INTERESTS OF

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The growing interest in the out-door treatment of tuberculosis makes the present time opportune for the publication of a journal devoted to the gospel of fresh air.

The National Sanitarium Association has led in the building of Sanatoria for Consumptives in Canada.

In educational propaganda it has ever been in the fore.

The Tuberculosis Exhibition held in Toronto for two weeks during the past year, and that created widespread interest among the medical profession and laymen, was brought here on the direct initiative of the National Sanitarium Association, and all expense was borne by this Association.

With this record for aggressive work in the interests of the consumptives of Canada it is, perhaps, natural that the N. S. A. should take the further forward and important step indicated in the publication of a monthly magazine devoted to the advocacy of these ends.

And here is the CANADIAN OUT-DOOR LIFE to fulfil this mission. Are we to have your aid? Are we to count you a subscriber now?

One dollar contributed to the funds of the Muskoka Free Hospital for Consumptives makes you a subscriber to CANADIAN OUT-DOOR LIFE for one year.

SUBSCRIPTION BLANK.

..... 190.....

Dear Sir,

I have pleasure in enclosing the sum of.....

..... (\$.....), as a contribution to the maintenance of the MUSKOKA FREE HOSPITAL FOR CONSUMPTIVES, which entitles me to one year's subscription to CANADIAN OUT-DOOR LIFE.

Name.....

Address.....

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HON. SIR W. R. MEREDITH, Kt., Chief Justice, Vice-President Nat. San. Association, Toronto, W. J. GAGE, Esq., Chairman Executive Committee, Toronto, or J. S. Robertson, Sec'y-Treas. National Sanitarium Association, and Manager CANADIAN OUT-DOOR LIFE, 28 Adelaide W. (Saturday Night Building), Toronto, Canada.

All Subscriptions received will be acknowledged in the Toronto "Globe" and "News." Any one subscribing one dollar or more becomes a subscriber to the Canadian Outdoor Life for one year.

The Fight on Tuberculosis

THE third annual report of the Henry Phipps Institute for the study, treatment and prevention of tuberculosis, has just been issued and is of great value to all who are interested in resisting the ravages of the great white plague. Perhaps not all our readers know that this institute was founded four years ago by Henry Phipps, a wealthy business man and manufacturer of Philadelphia. Without any ostentation or exploiting of his personality he did many public-spirited acts, culminating in the endowment of this worthy institution. Its purpose includes scientific investigations as well as charitable treatment. It provides for a number of paid fellowships, open to any member of the staff, and honorary fellowships open to any one throughout the world who has done distinguished work in the warfare on tuberculosis. Probably no other institution ever did more during the same length of time toward relieving human suffering and promoting the study of the prevention of disease than this institute has done.

As now organized, its faculty embraces a medical director, an assistant doctor and bacteriologist, twenty-one physicians, four laryngologists, a dermatologist, a neurologist, a pathologist, an ophthalmologist, a surgeon and three honorary fellows. The institute is not yet thoroughly equipped with mechanical appliances, but it has made a record that is attracting world-wide attention. During the three years of its existence it has admitted 3,886 cases for treatment, of which 2,999 were strictly tuberculous. These included persons of all nationalities, the greatest number in the

order of sequence being of American, Russian, Irish, German, English, Italian, Austrian and Scotch birth or parentage. The statistics of this institution show that foreign-born citizens furnish nearly 50 per cent. of the tuberculosis sufferers in our cities. This proves that consumption is not distinctly an American disease, as has sometimes been asserted. The statistics show further that in respect of immunity or freedom from tuberculosis the Celtic race leads, with the Teutonic next. The report says:

One of the striking features which comes out in this table is the prevalence of tuberculosis in the Hebrew race. It would be difficult to determine accurately, at the present time, what percentage of the population of Philadelphia is of the Hebrew race, as the Hebrew element of our population is a growing one. Some allowance must also be made for the poverty of the Russian Hebrews on account of their persecutions and down-trodden condition before coming to this country. With all these points in mind, however, the percentage of tuberculosis among the Hebrews seems to be very large. Though tuberculosis is more prevalent among the Hebrews than among other peoples, it does not take a fatal form among them as often as it does among other peoples. If this conclusion is not final, it should stimulate further investigation on the same line. The report contains more than a dozen papers on different phases of tuberculosis by as many different medical experts, and is a mine of information on the subject. It can be had by application to Dr. Lawrence F. Flick or Dr. Joseph Walsh, Philadelphia.

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Tuberculosis Kills Buffalo

ON the very spot where once he ranged in full enjoyment of the broad sweep of free prairie, now compassed by civilization, a dread fate has come to the buffalo, says the *Denver News*. The white plague is devastating the already thin ranks of the herd at City Park. There is a curious irony in the discovery. Years ago, before there was any civilization, the site of the City Park was marched over every day doubtless by thousands of buffalo, and such a thing as tuberculosis was never known among the animals.

Now the park is a Mecca for human beings afflicted with the dread disease, and the air of the grand pleasure resort is taken daily by scores of people seeking a return to health. For humanity there is no better breathing spot in Colorado, yet to the buffalo it is sure death, apparently.

One of the members of the herd died early this week, and an investigation proved that it was from tuberculosis. Another tubercular patient has been found in the herd and isolated to avoid possible contagion. The test applied to dairy cows will be given all the buffalo, and an effort made to find out how many are affected.

Sea Air for Tuberculous Children

WHILE never neglecting the relief of the individuals in suffering or misfortune, the association always keeps in mind the duty of using the knowledge thus gained to remove the causes of wretchedness and dependency. This is illustrated by what the association has lately done for children with tuberculosis of the bones and glands. There are four thousand five hundred such children in New York City, and sixty thousand in the United States. Not content with trying to ease the pain of these innocent victims here and there, the association has made a determined effort to find for them a permanent cure. A demonstration hospital was opened at Sea Breeze, where forty-five little patients were given the best of care, good food, and outdoor life in the sun and wind and bracing sea air. Their improvement has been so rapid that the association has been led to raise \$250,000 for a permanent seaside hospital. The city has granted a site at Rock-away Beach, and will assume the support of the work. Wide publicity has also been given to the needs of these preventable little cripples all over the land and impetus added to movements to remove the conditions which produce them. The smile of little Joe has been a great inspiration in this campaign. He had to lie strapped to his frame for a whole year while the bones of his back were being healed. Now he is so lively that the only way to get his picture was to make him sit on a log and hold out his hand to catch a peanut.—From "A Square Deal for New York's Other Half," by Fred'k. D. Greene, Assistant General Agent of the New York Association for Improving the Condition of the Poor, in the *Circle* for July.

Sir Frederick's Prescription

The King of England's famous surgeon, Sir Frederick Treves, has this to say to the rising generation. It comes from one who knows:

"Boys, don't bother about genius, and don't worry about being clever. Trust rather to hard work, perseverance and determination. The best motto for a long march is: 'Don't grumble. Plug on.' You hold your future in your own hands. Never waver in this belief, Don't swagger. The boy who swaggers, like the man who swaggers, has little else that he can do. He is a cheap-jack crying his own paltry wares. It is the empty tin that rattles most, Be honest, be loyal, be kind. Remember that the hardest thing to acquire is the faculty of being unselfish. As a quality it is one of the finest attributes of manliness. Love the sea, the ringing beach, and the open down. Keep clean body and mind."