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Tiny Destroyers of Mankind Cause Many of Our Diseases

Germs, Simplest Form of Life, Man's Greatest Friends and Fiercest Enemies—Sick Person Like Be-leaguered City

This is one of a weekly series of health-articles prepared by the Canadian Social Hygiene Council. Unless you have looked through a microscope, you have never seen the tiniest of all living creatures—and the simplest—germs. Germs are everywhere—in the soil, in the sea, everywhere where warmth and moisture are to be found.

Germs make it possible for men to live, germs cause men to die, and germs destroy the bodies of men when they are dead. Germs are our greatest friends and our fiercest foes. They cause plants to grow. They assist man to make linen, jute, hemp, butter, cheese, and many other things. They are the great scavengers that destroy dead tissues.

But unfortunately some few of the many different kinds of germs have learned how to attack human beings, with the result that in the great kingdom of germ life there are some kinds more dangerous to humans than all the mighty beasts of prey the world has ever seen. Yet, till the seventh century no one had ever seen these tiny slayers of human destiny.

Let us consider a concrete example of a germ that attacks the human system. Let us consider diphtheria. Germs of this disease attack the throat of a human being. In such a warm moist place they rapidly feed and breed. Now if that were all that happened it wouldn't be so bad, but like all other living creatures germs give off an excreta and this in the case of diphtheria germ is poisonous to the human system. This poison spreads throughout the body, and as a result of it the disease known as diphtheria develops.

From this example, we see that many diseases are caused by different kinds of germs. To better understand this, let us picture a walled city in the middle ages, a city peaceful and prosperous. Suddenly an invading army sweeps down upon it. Now that is what happens when the human body is invaded by germs. It maintains, in its bloodstream, an army of its own—a defence army which at-

tacks the invading swarms of disease germs, just as the walled city had an army to repel the invading soldiers. If the walled city's soldiers are stronger than the army of invaders, the attack is resisted and the city continues its life—unweakened, of course, by the siege. Similarly if the body's army of defence is stronger than the attacking army of germs, the attack is beaten off, leaving the body weakened from disease. But if the germ-army is too strong the defenders are beaten and the patient dies.

So now we understand that it would be just as impossible for a person to die of diphtheria without first being attacked by the germ of this disease as for a walled city to be sacked and burned by an invading army in the absence of that army. No other disease germs can cause diphtheria and diphtheria germs can cause no other disease.

Deathless

By Thomas Curtis Clark  
They say that beauty dies: as roses fade,  
And are no more; as Summer, once so bright,  
As Autumn's song must by the winds be stayed.

How can they speak thus falsely?  
Beauty lives,  
And shall live ever. Only she eludes  
The sure decay of time. When  
Autumn broods,  
Funeral, she mourns the leaves, but  
gives.

No hint of beauty's death. For she  
has passed  
Into the great world's life. A million  
hearts  
Possess her now. Supreme above all  
arts,  
She reigns. As first, she also shall  
be last.

The roses fall but beauty liveth on;  
The sunset fades, preparing for the  
dawn.

Minard's Liniment refreshes the scalp.  
X—"How did your garden do this year?"  
Y—"Great! My neighbor's chickens took first prize at the poultry show."

PUBLIC NOTICE

TO EMPLOYERS OF LABOR  
Attention having been directed to the scarcity of work in this City at the present time, employers of labor are asked to try and help to relieve the situation by engaging only bona fide residents of Toronto on any available work.

Notice is hereby given that no assistance or relief will be given to non-residents of the City of Toronto on account of their being out of employment.

BERT S. WEMP, Mayor.  
Mayor's Office, Toronto, October 24th, 1930.

SOUR STOMACH



JUST a tasteless dose of Phillips' Milk of Magnesia in water. That is an alkali, effective, yet harmless. It has been the standard anti-acid for 50 years among physicians everywhere. One spoonful will neutralize at once many times its volume in acid. It is the right way, the quick, pleasant and efficient way to kill the excess acid. The stomach becomes sweet, the pain departs. You are happy again in five minutes. Don't depend on crude methods.

Employ the best way yet evolved in all the years of searching. That is Phillips' Milk of Magnesia. Be sure to get the genuine Phillips' Milk of Magnesia prescribed by physicians for 50 years in correcting excess acids. Remember—the genuine is always a liquid. It cannot be made in tablet form. Look for the name Phillips. It is always on the wrapper for your protection. Drugstores everywhere have the 50c bottles.

Rain Drop Hotter Than 100 Suns With Power to Drive An Ocean Liner

Sun, Alone, Does Not Heat the Earth—Warmth Also Supplied from Disintegration of Atoms Beneath Surface

A thousand scientists in all parts of the world are engaged in the hunt for the inside facts of the atom.

The temperature of the flame at the surface of the sun is some 10,000 degrees Centigrade. Sirius, the brightest star in the sky, a bluish-white twinkler, sends out a temperature of 11,000 degrees; Vega shows 14,000 degrees on the astronomer's measuring instruments.

But man has done better. In his laboratories, 1,000,000 degrees Centigrade is not unknown. Sir Arthur Eddington recently said that if we could stir up a heat of 30,000,000 or 40,000,000 degrees the atom might begin to give a prolific yield of its energy. He went on to make the astonishing statement that "40,000,000 degrees is, perhaps, not beyond attainment in our laboratories."

Splitting the Atom  
"At Cavendish Laboratory," he continued, Dr. Kapitza produces momentary fields in which the concentration of energy corresponds to about 1,000,000 degrees Centigrade. If he should be able to raise this to 40,000,000—well, I don't really think subatomic energy will come pouring out, but just to be on the safe side, I shall take care not to be too near the laboratory when the experiment is tried."

Sir Arthur Eddington has stated that there is enough energy in a drop of water to furnish 200 horse-power for a year; that perhaps some day great generating stations with wharves and sidings would be necessary; and instead of pampering the appetites of our engines with coal or oil, we shall induce them to work on a plain diet of subatomic energy. If that day comes, barges, trucks, and cranes will disappear and a year's supply of fuel for a station—thirty grams of water—will be carried in a tea-cup.

Dr. Thomas Johnson states that we were being served by atomic energy in a way we do not realize. "It is a common belief," he said, "that the earth is kept warm by the heat of the sun. While sunlight comes to us in great volume, it is not sufficient to maintain the globe at its present temperature, making human habitation possible."

Dr. Johnson also has pointed out that we are being served by the disintegration of atoms below the surface of the earth. The radium ores, the potassium group of minerals, and so on, constantly disintegrate and give off energy. The known deposits of these disintegrating ores, plus the heat which we receive from the sun, roughly approximate to the amount of heat energy on the earth.

"When we speak of using the power

of the atom we are speaking of using the power which results when the atom itself, the combination of protons and electrons, is broken down. Some power, some force binds the parts of an atom together. The secret of using the power in the atom is to find an inexpensive way of releasing that atomic binder."

A method for extracting the power of the atom must tear the atom apart if it is to be of any practical value. Energy in a disintegrating radium atom is a terrific force—radium destroys itself."

A great contribution which perhaps comes the closest to showing men of science what is the composition of the atom was described recently by Dr. Arthur Compton, the 1927 Nobel Prize winner in physics. His experiments indicate that scientists who are forming the idea that atoms are formed like minute universes. According to Dr. Compton, the atom is not a miniature solar system in which the tiny negative charges of electricity—the electrons—move in a fixed orbit around the proton, or nucleus, of positive electricity. Nor is the electron a diffused cloud of negative electricity. It is, rather, composed of particles of matter distributed like raindrops in a cloud.

X-Rays—and Moonlight  
"Several weeks ago," said Dr. Compton, "I noticed a halo around the moon. Half an hour later the halo was fishily smaller in diameter and rain began to fall. The interpretation of such haloes—due to the diffraction of the moonlight by droplets of water suspended in the air—is well known. By observing the diameter of the halo we can estimate the size of water drops which cause it. A shrinking halo means a growing drop and hence probable rain."

Dr. Compton applied the same rule to "see" inside the atom. "In a similar manner," he said, "it is possible to find the size of molecules and atoms in a gas by observing the diffraction haloes produced when they are traversed by a beam of X-rays."

"We substitute X-rays for the moonlight and, instead of the raindrops or vapour, use helium, argon, neon, or some other gas. The X-ray makes diffraction haloes on the gas just as moonlight makes it on the raindrops. Just as we can estimate the size and position of the raindrops, we can similarly estimate the size and position of the electrons."

"Accordingly, we may say, with some confidence, that the aspect of the problem of atomic structure which is concerned with the distribution of the electrons in atoms is finding a satisfactory solution."

Hawk Drips Blood During Wartime

Baden-Powell Tells Remarkable Story of Mummified Bird From Egypt

London—An extraordinary tale of an Egyptian mummified hawk that drips blood during war time was told recently by Lord Baden-Powell, chief scout.

Lord Baden-Powell says he is not superstitious enough to believe that the hawk really forecasts the coming of war, but thinks its prophetic powers are "an amazing coincidence."

Asked to amplify a brief reference he made to the bird at a recent banquet, he said: "This bird, which is in a mummified state, was discovered in 1887 by a friend of mine during excavations work in Egypt."

"By comparing it with other things discovered at the same time, he concluded that the bird was at least 4,000 years old."

"I saw the thing for the first time the other day at a friend's private museum. It is in a wonderful state of preservation, and although the eyes are gone, one can still clearly see the beak and the feathers."

"On the shelf where the bird stands, I noticed a dry, brown stain, and when I questioned my friend about it he told me that about a month before the outbreak of the Boer War the hawk became damp and gently oozed bubbles of this stuff."

"All through the campaign this 'sweating' continued, until about a month before the war ended, when as suddenly and mysteriously as it had begun, the dripping ceased."

"But exactly a month before the outbreak of the Great War the bubbles again appeared, and the amazing fact is that they again stopped just a month before the Armistice."

Crying Babies are Sickly Babies

The well child does not cry. He is laughing and happy all the time. Baby's cry of distress is the only means he has of telling the mother or nurse he is ill. Mothers, you can keep your little ones well and happy by giving them Baby's Own Tablets—the safe and efficient remedy for all childhood ailments.

Baby's Own Tablets are a mild but thorough laxative. They sweeten the stomach; regulate the bowels and thus banish constipation and indigestion; break up colds and simple fevers and allay the irritation accompanying the cutting of teeth. They are sold by all medicine dealers or by mail at 25 cents a box from The Dr. Williams Medicine Co., Brockville, Ont.

Bats  
Night would not be night unless  
These velvet angels led the way  
With their wings like a caress  
And eyes too delicate for day.

They are the last of gentle things,  
Of leprechauns and elves, whose  
course  
Is their fragile hearts and wings  
Built for a gentler universe.

There is no mercy in the sun  
For the plumes of their hair,  
They must wait till day is done  
Before they whisper in the air.

Birds and beasts disown their kind,  
Men see devils in their flights.  
They wait until the world is blind,  
Night's lovely, shy hermaphrodites.  
—Robert F. Tristram Coffin in the Nation.

Banish pain with Minard's Liniment.  
Friendly  
The big grandfather clock that stood in the hall of little Betty's home was a never-ending source of wonderment to her, and she used to spend a long time gazing at it.

One day her aunt entered the hall and saw the child gazing at the clock-face.  
"Is the clock going, Betty dear?" she asked.  
The child shook her head.  
"No, auntie, she replied, "it's just standing still and wagging its tail."

BLACKHEADS

Get two ounces of peroxide powder from your drugist. Sprinkle on a hot wet face. Rub in gently. Every blackhead will be dissolved. The one safe, sure and simple way to remove blackheads, satisfactorily, guaranteed or money refunded. W. W. JONES & CO.

70—BUT TAKEN FOR 45

Army Officer's Secret of Perpetual Youth  
TAKEN KRUSCHEN FOR 20 YEARS

"Seventy be jiggered, sir! I pass anywhere for 45, and hell!—I feel sixteen!" That's the spirit of the Army Officer's Secret of Perpetual Youth, if you read between the lines. A seventy-year-old son-of-a-gun who can still sit astride a horse!  
"I have used Kruschen Salts for nearly 20 years, and when I say that, being 70, I was taken the other day for 45, that I am strong, can still ride and enjoy it, I would like you to understand that I attribute the whole of the above really wonderful facts to the virtue of your Kruschen Salts. I took it with me and was supplied with it during the whole of the War. I introduced it to high officials in London, and an Australian Judge adopted it on my recommendation, and writes me from Australia how wonderfully it has improved him. Some of my friends both at the Bachelors' and Cavalry Clubs, Piccadilly, take enough to cover a shilling and swear by it."—Capt. M. When you lead a sedentary life with little fresh air, less exercise and heavy, ill-chosen meals, your inside, sooner or later, grows sluggish, and fails to supply your eliminating organs with the tonic mineral salts that they must have to

Radio Fans

When it's late at night and you're listening to the radio - you'll enjoy it ever so much more with a cup of Red Rose Tea to sip. Try it!

RED ROSE TEA

"is good tea" 115  
Two Qualities - RED LABEL & ORANGE PENCKE

A Pleasant Smile  
You gave me the way a pleasant smile  
And thought no more about it;  
It cheered a life that was sad,  
That might have been wrecked  
Without it;  
And so for the smile and its message  
You'll reap a crown some time  
somewhere.

You spoke, one day a cheering word,  
And passed to other duties;  
It warmed a heart, a new world  
stirred,  
And painted a life with beauties,  
And so for the word and its present  
prayer,  
You'll reap a palm some time  
somewhere.

You lent a hand to a fellow  
In a lift-in kindness given;  
It saved a soul when help was  
And won a heart for heaven;  
And so for the help you gave  
You'll reap a joy some time  
somewhere.

Out of Date  
Auntie and her niece were  
berheads.  
"I'll have you know that I dis-  
according to the mode," said  
stiffly.  
Her niece smiled.  
"I suppose so, after a fashion,"  
replied.  
Auntie tossed her head.  
"After a fashion—what do you  
mean?" she inquired.  
"Yes, long after," were the  
final words.

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time and again. It also relieves  
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When you lead a sedentary life with little fresh air, less exercise and heavy, ill-chosen meals, your inside, sooner or later, grows sluggish, and fails to supply your eliminating organs with the tonic mineral salts that they must have to

enable them to work properly. Follow the whole host of so-called "miraculous" pills that undermine your constitution and blunt your happiness and discolor your outlook.

The trouble is obvious enough; it's the lack of those vital salts. Get a bottle of Kruschen and the remedy will be just as plain; for Kruschen is a combination of just those salts your body needs, blended in Nature's own proportions. Now you see why "it's the little daily dose that does it."

You can't grow old when every little fibre of you is tingling with "that Kruschen feeling." Get that bottle to-day and begin to get younger to-morrow.

Kruschen Salts is obtainable at all Drug Stores at 45c and 70c per bottle.

Twice Benefited  
BY SAME REMEDY

Recommend  
Lydia E. Pinkham's  
Vegetable Compound

Cobourg, Ontario—Years ago when I had a sick father and a nursing baby I had to care for. I got all run down and I took Lydia E. Pinkham's Vegetable Compound to do my work. Another time at Change of Life, I had severe headaches and felt tired all the time. I took seven bottles of the Vegetable Compound to get strength to do my work.

Compound and felt like a new woman. I recommend it to any woman who is at the age when she needs building up."  
—Mrs. T. E. SLEEMAN, R.R. 4, Cobourg, Ontario.