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Well, Strong and Vigorous.



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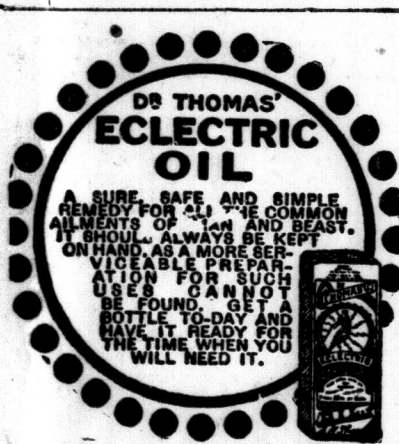
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To Port Stanley—10:10 a.m., 12:10, 2:10, 4:10, 6:10, 8:10, 10:10 p.m.
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All trains stop at Glenora.

MODERN PUBLIC HEALTH

(University Extension Board of Western University.)
BY H. W. HILL, M.B., M.D., D.P.H.
Director, Institute of Public Health of Western University, London, Ontario, Canada.

A Column Devoted to Public Health in All Phases.
Questions Addressed as Above Will Be Welcomed.

DOES DISEASE CAUSE GERMS?

A university student who likes to think for himself asks how we can prove that germs cause disease—how do we know that disease does not cause germs? He admits that in a given disease, say typhoid fever, we may always find a certain kind of germ which we call the typhoid bacillus; but he claims that we have no right to say that therefore the typhoid bacillus causes the disease. He points out that in bacteria we may find pus, but we do not therefore infer the pus causes boils. Rather we say that the boil causes the pus. If a boil causes pus, which is made up of little living and dead particles, why cannot it cause also other little living and dead particles of a different kind, which we call germs?

NEVER INVESTIGATED.

This question has been asked many times in years gone by. Twenty years ago the contention that germs were, like pus, merely by-products of disease, and not the cause of the disease at all, was maintained by a famous Harvard professor very emphatically. However, he had never investigated for himself, or he would have found some very difficult points to meet, if he wanted to prove his position.

He would find, for instance, that the very first disease germ detected by discovered was the germ of anthrax, a rather big one as germs go, some of them as much as five-thousandths of an inch long. In all cases of anthrax, in cattle or sheep or man, the germ was yet to be discovered; and that when the disease developed it had as one of its peculiarities the ability to generate in the blood of the animal a particular sort of pus or similar substance which we mistake for an independent living thing, and call a germ. But we can go beyond the mere finding of the germ in the animal that has anthrax. We can remove a little of the blood to a tube of beef broth or a tube of milk, and carefully sterilized first, of course. We keep the beef broth or milk or potato at body heat for 24 hours or so, and then we find the beef broth quite milky in appearance, whereas before it was quite clear. On examining a drop of this new cloudy liquid under the microscope, we find it teeming with germs just like the animal itself has disappeared—disappeared, of course, by the broth into which we put it; the pus, if there were any, is gone—also broken down and destroyed.

FIND SAME THING.

If we examine the milk we find the same thing. The potato shows on its surface a thick creamy smear quite visible to the naked eye; and on placing a little of it under the microscope we find that it also is composed of millions and millions of the same germ. The pus and blood we put on the surface of the potato at the same time, the night before, is gone, or represented by a few broken-down cells, mere debris.

But, says our Harvard professor, "What does that prove, except that the disease produced something—call it germs if you like—that will grow apart from the body? It does not prove that the germ caused the disease."

All right. Let us now take a tiny speck of that growth from the potato, or a tiny drop of the milk or the broth, and with a hypodermic needle put it under the skin of a cow or a sheep or a guinea-pig. In a very short time the animal becomes sick, and develops all the symptoms that the sick animal shows. Who has suffered from the presence of anthrax against this animal will identify it at once as the dreaded disease. No need, in the countries of Europe or South America, to call a veterinarian to make a diagnosis. With thousands of cases of cattle and sheep dying at a time, everyone

who has to do with them recognizes what is wrong very promptly.

Well, we have now produced the disease in a healthy animal by using the germ. How is that for proof? "No," says the Harvard professor, "what you really did was to transfer to your brood your milk, or potato the germ—true enough—but also some pus or blood, and that contained the germ. The germ which is a mere by-product of the disease, not only the blood cells and pus cells, which died and broke up in the broth or milk or potato—it contained the real cause of poison, the disease germ. When the germ grew and you removed some of it to a healthy animal, you removed also some of that other disease-producing substance as well; very little, truly, but enough to produce the disease."

All right. Instead of putting some of the potato or milk or blood into a cow or a sheep, let us merely transfer a tiny speck of the growth to another potato. Let us note just where we touched the potato with our pin-point transfer needle. Next day we have a growth from that pin-point as big as a five-cent piece—perhaps as big as a quarter in three or four days. Let us take a tiny speck from the very edge of this, as far from where the growth began as possible, and put it on another potato. When that has grown as big as a quarter, take from the edge again to another potato, and so on and on, a hundred times if you like. Surely by this time we must have lost in the shuffling the other mysterious disease-breeding thing that the Harvard professor thought was there in the original potato. Surely so—yet when we take a speck of growth from the last of the 100 potatoes, and put it into a cow or sheep or a guinea-pig, there comes the same old attack of anthrax—the animal sickens and dies just the same as ever.

Do you follow all this? Let us try a parable. Suppose a savage, who knew nothing of rifle or gun, going through the forest one day, was deeply wounded by a stray bullet from a far-off woodsman. The wound inflamed and the savage died. His friends examine this strange disease. They decide that it is a new kind—one that produces a hard conical lump in the hole it makes, as well as pus and blood. They think the bullet hole causes the lump. Some one of them, however, takes the bullet and inserts it into a cow's leg, producing a similar hole, and pus and blood. But his friends argue that that does not prove the bullet made the lump hole all it proves is that something that was associated with the bullet did it, not the bullet itself; something that the investigative savage took over without noticing it from the original wound, with the bullet, when he extracted it. But, not to be beaten, the investigative savage makes some new bullets, that have never been near the dead man, and produces similar bullet holes with those. Then what will his friends say?

PROVES NOTHING.

Do you know what our friends say when confronted with the proof given above that germs cause disease? They say, "That proves nothing. You made up your mind that the germ you have grown is the cause; you then, with your mind fully set on this, put the germ into an animal, and your mind conveys the disease to develop. Isn't that simple?"

If anyone could do that has a balky horse to deal with, he ought to be able to "set his mind" hard enough to get the horse to go. Surely if he can produce disease in willing it, he ought to be able to merely start a balky horse without any other help.

Intelligent and educated people approve of the above argument, and say, "That proves nothing. Yet how about a bullet wound? Does a man get killed by a bullet merely because the man who fired the bullet 'willed' it to kill him?"

Next week I will try to show how this "argument" is met.

Apathy at Ottawa Is Preventing Passage of Advanced Legislation

[By Mrs. George Hambleton, B. A.]

"Law comes to the aid of those who are awake, and not of those who sleep." The old Roman maxim applies with singular force to the position today in labor legislation in Canada. Laws passed by the Dominion Parliament since the war reveal the hand of a small, vigilant group, active in preventing any suggestion of a retrogressive legislation, always first in data, and argument to uphold their view. While openly in favor of the labor principles laid down in the treaty of Versailles—principles which received the approval not only of Canadian plenipotentiaries at the peace conference, but the approval of the Dominion Parliament itself—they are in reality no means friendly to those principles being given the effect of law throughout the Dominion. The activities of the group go further. They are evident in post-war legislation, reactionary in its terms, and highly dangerous to organized labor in the indifference of its provisions.

Parliamentary records of nearly all the Allied and neutral countries since the war show a wealth of advanced labor laws, offset here and there by a reactionary measure devised in time of intense depression. Since the armistice, the Dominion Parliament has passed a certain amount of labor legislation, but none of it could be any stretch of imagination be called highly progressive. It consists in the main of more or less technical amendments to existing statutes. But there were two acts passed at a time in hurry, in the Winnipeg strike, which, in the interests not only of organized labor, but of the community at large, should be revised with the least possible delay. In both of them the reactionary bias was so strong that one was an amendment of the immigration act; the other amended the criminal code in regard to unlawful association.

In 20 Minutes. The immigration act amendment went through both houses almost without comment, and within the space of about 20 minutes. It greatly widened the powers of deportation authorities. Aimed at the Winnipeg strike leaders, it authorizes deportation for offences stated in the amending act. In the first time, but committed years, perhaps, before the act was passed. The amendment to the criminal code also passed without strenuous opposition. Among its provisions there is one declaring as unlawful an association "whose professed purpose or one of whose purposes is to bring about any governmental or economic change without lawful association."

Deafness

Purified hearing is now being obtained in heavy conditions of deafness or defective hearing. Deafness, related to the ear, is caused by the accumulation of wax in the ear, or by the accumulation of fluid in the ear, or by the accumulation of pus in the ear, or by the accumulation of blood in the ear, or by the accumulation of any of these substances in the ear. Dr. Wilson Ear Drum Co., Incorporated, 404 Inter-Southern Bldg. Louisville, Ky.

Industrial life of Canada waits upon it. It is strange to think that in Ontario today the legal work day for women and girls is still ten hours, and that the ten hours may at times be increased to twelve hours and a half, and 72 hours a week. Reform is surely overdue. The recent education act of Ontario, devised to aid and educate these young people, but there are still cases where this education act does not apply, in that the proper education facilities have not yet been established in all factory towns. So even still the girl of 14 or 16 years may on occasion work 12 hours a day and 72 hours a week. The hours are too long, not only for girls, but for women. And it is always the young, the unorganized, the unfortunate, on whose burden falls the public conscience must soon demand action.

Are Heavens. But, embarrassed by the actions of the Dominion Government, the provincial authorities hesitate. In view of the international obligations, it is the plain duty of the Dominion Government to call a conference of the provincial governments at once to see if some common action cannot be taken to shorten the work day, especially of women and children, and referring to the Washington conventions to the provinces—with the possibility of indefinite legal quibbling, except Sunday. There must be definite action. If the health of women and young girls is of value to the state, a 72-hour week must be forbidden by force of law. And such an inter-provincial conference should discuss not only the post-hour day convention, but all the other conventions adopted at Washington.

Without some such sincere though belated effort to discharge its duty, the Canadian government will cut a sorry figure at the next international labor conference called by the League of Nations.

FORDNEY WOULD RUSH THROUGH PROTECTION BILL ON WHEAT, WOOL

Washington, Dec. 17.—Discussion of proposed emergency tariff legislation to check imports and the decline in prices of wheat and wool, with the possibility of its extension to cover other commodities, was the purpose of a joint conference today of members of the Senate finance and the House ways and means committees. Although members of the two committees appeared to be divided as to how far the tariff program should extend, with some advocating the entire wiping out of the free list of the Underwood tariff act, Chairman Fordney of the ways and means committee said he favored rushing through the emergency protection for wheat and wool and a few other commodities and

letting other tariff matters go over for further consideration. While the finance committees were considering the question of checking price declines through a tariff embargo, the formulation of a policy for dealing with all pending farmer relief legislation was to be undertaken by a special committee appointed by members of the House who banded together yesterday for concerted action to aid the United States farmers.

GENERAL STRIKE IS CALLED AT HALLE

London, Dec. 17.—A general strike has been called in Halle in protest against the expulsion of Dr. Stern, an Austrian editor of a local newspaper, as an undesirable alien, says a dispatch to the London Times from Berlin. The town is in darkness and the street cars and railroads have ceased running. Dr. Stern was actively concerned in the disturbances in the Ruhr region early in 1920.

CHRISTMAS HOLIDAY TRAVEL. The new fast service of the Canadian National-Grand Trunk Railways between Toronto, Ottawa and Quebec offers a convenient and comfortable manner of travel for those planning Christmas and New Year holidays. "The Capital City" leaves Toronto at 12:00 noon daily, except Sunday, and reaches Ottawa at 7:15 p.m. At Ottawa connection is made with through sleeping car, which arrives at Quebec (Palais Station) at 6:15 on the following morning. The finest of modern equipment is in use on these trains. For full particulars apply to agents of the Canadian National-Grand Trunk Railways. D.17,18,20,22

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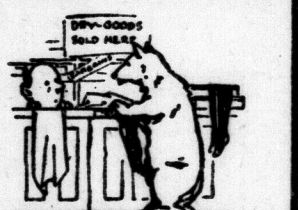
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When a bear
goes into a dry-
goods store what
does he want?



Answer
SLIM NU

What is it that
every living person
has seen but will
never see again?



Answer
DRY E YEAST

What is that
which you break
by just naming it?



Answer
ICE LENS

What is the difference
between a 1920 dime
and an 1899 cent?



Answer
NICE NETS N

HERE are four riddles for boys and girls with wise heads. We told the artist to draw the pictures to represent the riddles, but he guessed the right answers—and put them in too! So we barred him from the contest and told him to keep it a secret. Luckily, he got the answers all jumbled up, so you won't be any the wiser. If you can unscramble the jumbled letters beneath each riddle picture and put them in their right order to spell the right words, you will have the right answers. It isn't an easy task. Good the answers. Try it.

If you think you have found the answers, write them carefully on a sheet of white paper. Put on nothing but your four answers and your name and address in the upper right-hand corner of the page. Handwriting, spelling, punctuation and general neatness will count if more than one answer is correct. We will write and tell you immediately if you are correct, and send you a handsome illustrated list of all the prizes that you can win.



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