

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

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1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
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Canadian parliaments have ever known. Was it not a fine thing to take these men over the line and let them see where Canada's money went? Surely, but as is generally the case, Mackenzie and Mann got the best of the deal. What kind of independent views can any parliamentarian have who will sell himself for a free ride to the Pacific Coast? How many of the men who took the ride dare oppose Mackenzie and Mann when next they make representation to parliament for more money for railway building? How many of them will have a clear, unbiased judgment of the case. Some members who had opposed the government guaranteeing of the C. N. R. bonds during a recent session were, while on the return trip, ready to take back some of the things they had said against the road. The leaven worked like magic, the taint was already apparent and the kings of all lobbyists must have rubbed their soft hands and laughed up their broadcloth sleeves to think how nicely they had hoodwinked once more the great representatives of the people. This was a case of expert lobbying where both sides took the bait in one big bite and got caught. How securely they were hooked remains to be seen and will likely be noticed at some future time when Mackenzie and Mann come back for more of the people's money. Sovereign voters should make it their business to find out whether their representative sold himself for a free trip to the coast. If he went he likely did, and his future record on the floor of the House should be watched. Make it your business to know how he votes the next time Mackenzie and Mann want help.

While on this subject we might quote from "The Farmer's Advocate and Home Journal," of Winnipeg, on the third transcontinental:

"There has been rejoicing in various circles over the fact that the third transcontinental railway across Canada has just been completed. We

cannot drop into the enthusiasm shown by some over the joining up of another pair of rails across the Dominion. It does not indicate commercial expansion of the country. It will not appreciably increase trade from coast to coast, and we are quite sure that its completion will in no wise reduce freight rates.

"As yet the traffic across the mountains and around the Great Lakes could easily be handled by one line of railway. The other lines mean a tremendous investment which has been guaranteed by the Dominion Government, and the people of Canada must bear the cost and maintenance of all these railways.

"The question is, is it worth while for the mere show that three transcontinental lines give to bear the extra burden of the useless lines? Altogether we see little justification for the extras."

### The Military Murder of Nurse Cavell.

"The blood (of Edith Cavell) will blot the honor of the German army and the German Government for generations to come. It is one of those stains that cannot be erased."—New York World.

"More than all the counts in the Bryce report of atrocities in Belgium it will weigh in the scale of judgment, for it has struck the world with horror."—New York Sun.

"Germany has brought herself into a position where the world turns from her in horror and dreads nothing more than the success of her arms. The executioners of Edith Cavell carried out the spirit and purpose of the brutal imperial military policy."—New York Times.

"An American minister's own words certify to the enormity of German inhumanity. Something there is of enduring grandeur in this woman's sacrifice. . . . The results will be found in all the days hereafter until the great day when Europe at last frees herself from a tyranny which is both brutal and stupid and in its stupidity has sealed its doom."—The N. Y. Tribune.

"It was an atrocious exhibition of the barbarism of German military law and of the savagery of the German military character. In the light of the full and clear statement of Minister Whitlock and Secretary Gibson, this shocking affair brings forward into the light not only a brutal piece of woman killing but a positive affront to the United States. Will President Wilson have something to say about this affront?"—Boston Transcript.

"The German authorities in shooting Miss Cavell have added one more to their list of shocking offences committed against humanity."—Boston Traveller.

"The execution of Miss Cavell, the British nurse by the German military authorities, sent a wave of indignation around the world."—Chicago Herald.

"The execution of Miss Cavell has sent another thrill through this country. . . . in the face of a world of terrors, Civilization is breathing faster and faster. How far the sword and torch will sweep no man can prophesy."—Chicago Tribune.

"Miss Cavell as a British subject was under the protection of the American legation. The American Minister made both an official and personal request that her life be spared. This request was not only refused but treated with contempt. To let the matter drop would be a confession that this country can neither protect its citizen's interests nor those of other nations whose interests it has undertaken to guard."—Philadelphia Public Ledger.

### Nature's Diary.

A. B. Klugh, M.A.

We commonly regard a drop of water as a very small thing, but a drop of water is a whole world to many forms of life. If we take our drop from a good well or spring, or from a lake or river in which the water is clear, and place it under the microscope we shall find no, or very few forms of life. But if we take our drop from a stagnant pool, or from very close to the bottom along a muddy shore, we shall find in it a great many extremely interesting animals and plants.

These minute forms of life are not only interesting but are extremely important because of the insight which a study of them gives us into higher forms, and gives us a far better conception of life as a whole. For instance we know that it is not difficult in the case of the higher forms to tell if they are plants or animals, but in the case of many of these low forms it is im-

possible to say definitely to which kingdom they belong, and we thus find that the common conception of life forms being sharply divided into animals and plants is incorrect.

In the drop of water which we place under the microscope we may find a transparent animal which looks like a minute portion of the white of raw egg. If we watch it we shall see that it constantly changes its shape, and this fact has given it its name of Amoeba, which is derived from the Greek "amoibe," meaning change. In the Amoeba we have the simplest of all animals, a little drop of protoplasm, an organism with no organs, with no limbs, but an organism which breathes, feeds, reproduces, is sensitive and has the power of locomotion.

As we watch the Amoeba we see that it can not only change its shape, but that it can move from place to place. How does it do it without legs or feet? We notice that a little projection appears on one side, that this projection, which is called a pseudopod or "false foot," grows larger and that the protoplasm gradually flows into it, until the whole body (if we can use the term "body" in speaking of such a single-celled form as the Amoeba) has moved into the place where the projection first appeared. By this time another "false foot" has been advanced, and by a repetition of this process the Amoeba moves along.

Even in such low forms as the Amoeba we find that there are many species, and that these species differ in their size and in the way in which they progress. In some the "false feet" are at first slender and long, in others they are so short that they seem like the whole front portion of the "body" and the animals appear to flow along much like a drop of water. The Amoeba breathes also in a very simple manner by the interchange of gases taking place between the protoplasm and the water in which it lives. This is the way in which all the single-celled animals breathe and it is only when we come to the more highly organized animals, made up of many cells, that we find gills and lungs required for respiration.

In feeding the Amoeba simply flows round its food, which consists of low forms of plants called Algae, the food is digested in the protoplasm, and the animal flows on leaving the undigested portion behind.

Reproduction in the Amoeba is also extremely simple, it divides in two, and there are two Amoebae. This method of reproduction is interesting as a consideration of it leads us to the belief that the Amoeba is immortal, since there is no "old age" and no death as each half of the original Amoeba grows to full size, continues to live and ultimately divides. There is thus no natural death and Amoeba only dies by accident, such an accident for instance as being eaten.

That the Amoeba is sensitive we can very easily prove, as if we raise the temperature of the water in which it is living some degrees above normal it rounds itself into a sphere, as it also does if injurious substances, such as acids, are placed in the water or if an electric current is passed through the water.

In, or near, the centre of the Amoeba there is a little dot. This dot is called the "nucleus" (from the Latin "nux"—a nut) and is an essential part of every living cell, whether this cell is the whole animal, as in the case of the Amoeba, or forms a part of a highly complex body. The nucleus consists of denser protoplasm than the rest of the cell, and it is the controlling part of the cell. In division the nucleus divides first, and if an Amoeba is cut in two the part which contains the nucleus will continue to live, the other portion will die.

We have now seen from our brief study of Amoeba that it exhibits all the main life-processes that are performed by higher forms, and how the problems of life are met by a little animal which we might almost say is "sans everything" which we usually associate with animal life.

The execution of a British nurse in the dead of night can never help the Germans win this war. As in the case of the great bombardment of Ypres the German army must destroy something. They could not destroy the British army which stood across their way to Calais, so they turned their guns on the historic buildings of Ypres; they could not obliterate the love of freedom and liberty from the heart of a British nurse so they blotted out her life. Such cannot win the war.

The dual-purpose cow may not be considered a possibility by some, but the other day we saw a heifer sold for \$660 which gave 9,400 lbs. of milk in eleven months and will freshen again in March. She will weigh, in her four-year-old form, 1,500 lbs., and carries enough beef to almost put her in the beef class.