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"The Woman—Bless Her."

BY PETER MCARTHUR.

Having just read Miss Marjory MacMurphy's book, "The Woman—Bless Her" (S. B. Gundy, Toronto,) I naturally want to make a few remarks, but am wondering if it will be entirely safe. The last time I dealt with a phase of woman's work I got "Paddy-whacks" "Lay over for Meddlers" and "Thimble-pie" and other forms of correction. I was told that "Fools rush in where angels fear to tread", but this time I can plead that the angels have preceded me and that I am merely following with cautious steps and an observant eye. Miss MacMurphy warns her readers that this is "Not as amiable a book as it sounds," but if there is anything disagreeable about it I failed to find it. It is a comprehensive review of woman's position in Canada, her opportunities and her possibilities. It is quite possible that the feature of the book that interested me was not the one that was uppermost in the author's mind when writing, but it fits in so well with some other things that I have been observing and thinking about that I wish to call attention to it. It is plainly stated that "The purpose of this book is to point women towards the proper recognition of their work in war and reconstruction." This theme is admirably worked out in these essays. Woman's work is reviewed in all its phases. Especial emphasis is laid on the fact that the care of children and home-making are of the first importance and worthy of the most careful study and training. It is also satisfactory to note that Miss MacMurphy is not one of the city women who think that Canadian women should do outdoor farm work like the women of the old countries. She realizes that they have enough to do in caring for their homes. But the sentence that arrested my attention was this: "These women, whether they are aware of it or not, are to some extent responsible for the strengthening of Canadian unity." As Canadian unity is of the utmost importance at the present time when politicians are apparently doing all in their power to create discord, the influence that the women may have may be of great value, in spite of the fact that they have no votes.

The war has put democratic institutions to new tests and there are many who fear that a triumphant militarism will result from the struggle. Fortunately this danger has been averted in a way that no one could have planned or foreseen. Anyone who is at all familiar with existing conditions throughout the country has observed the tremendous influence of the letters that are being written home by the boys at the front and on their way to the front. Although these letters breathe a determination to carry through the work in hand they are educating the people to the fact that the war

is due to rampant militarism and that when this war is ended we must have no more of it or of the forces that make war possible. The indications are that instead of war establishing a powerful centralized government it will result in a wider freedom. And this will be achieved by a spontaneous democratic development which is stimulated by the thousands and hundreds of thousands of letters from our soldiers that are coming to Canada every week and reaching every part of the country. This indicates a new phase of democracy which makes the future outlook more hopeful. If the people can bestir themselves without leaders, the lack of leadership which many are bewailing at the present time may be the best thing possible. In reading Miss MacMurphy's review of the present activities of women I seemed to recognize another force similar to that of the boys at the front that may do much to shape the future of the country—a truly democratic force that concerns itself with the development and welfare of the people rather than with their political ambitions.

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Miss MacMurphy states: "Two hundred and fifty thousand Canadian women belong to national organizations; three hundred and sixty thousand are in paid occupations; between five and six thousand are graduates of women's colleges." It is true that this is only a small proportion of the 2,186,000 women between the ages of fifteen and eighty years of age, but the significant thing is that they are organized at all. A few years ago there were no women's organizations except for church work, and they worked largely as separate bands, but the organizations of to-day are Dominion wide and so thoroughly organized that they have developed systems of politics of their own. The author remarks that in some cases "A few elected leaders, and a few others who establish an unexplained influence, decide what is to be done." That sounds wonderfully like the work of the steering committee of a political party and suggests bossism. But that is only a minor blemish. These women's organizations concern themselves with all sorts of matters from missionary work to home-building and the effect is bound to be beneficial. It is well known that the best cure for political feverishness is plenty of work to do, and in throwing themselves into all kinds of work with organized force the women are doing something and may do much to counteract the baneful influences of sectionalism as developed in our political campaigns. "Women's organizations have helped to develop social feeling and friendliness, mutual understanding and sympathy amongst women. They will continue to do so if they resolutely determine to remain democratic and promote democracy. Such books as this one, so critical and so informing will do much to keep these organizations on the right track and Miss MacMurphy has done a real service not only to women but to the country at large in studying this question and setting forth her conclusions.

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One of the best features of the book is the sympathetic study made of the country woman. Miss MacMurphy has little but praise for her sister on the farm as the following quotation will show.

"In all probability the finest expression of patriotism in Canadian literature was written by a country woman, Miss Agnes Kingston of Watford, Ontario. It is an epitome of the country woman's character, quiet, steadfast and natural, a surety for affection and kindness. Canadians should read it carefully, for its dignity, simplicity, deep feeling and intelligent meaning are the best exposition which can be given of the women of Canadian country districts.

"My love for Canada is bound up with my respect for the commandment—'Honor thy father and thy mother'. My father and mother hewed out a home for themselves in Canada, they are laid at rest here and I ask that my days may be long in the land."

I am glad to have the opportunity of quoting this sentiment of the late Miss Kingston for it has a point of view that every Canadian should maintain in the present time of trial. I am glad to know it is being taught to school children both in Ontario and in the West, and at least one inspector has had it printed on cards to be hung in all the school rooms under his care. No finer expression of patriotism could be impressed on the minds of our children.

Nature's Diary.

A. B. KLUGH, M. A.

In our discussion of the animal mind we come next to the large group Arthropoda (derived from two Greek words meaning "jointed feet") to which the Crayfishes, Crabs, Lobsters, Insects, Spiders, etc. belong. Upon the forms of this group a large amount of very valuable work has been done.

In order that we may understand the significance of the actions of the animals of this group it is necessary we have some knowledge of the types of nervous system they possess. This consists of a nerve cord which runs the whole length of the animal just beneath the abdominal wall, and on which there is a ganglion, (a group of nerve cells) for each segment, and two larger ganglia in the head, the larger of the two often being termed the "brain".

In the Crayfish each ganglion is a reflex centre for the segment in which it lies, and regulates the movements of the appendages of that segment. It is absolutely essential that we have a clear idea as to what is meant by a reflex. By a reflex we mean an action which is performed without involving the higher centres, such as the brain,—an action which is performed as it were automatically. In many of the lower forms we find that the great majority of actions are reflexes and in

man the reflexes are very numerous and important. We may illustrate a reflex in the following manner: Suppose you are standing with your back to a hot stove and you place your hand behind your back and bring a finger in contact with the stove. What happens? Do you think, "My finger is touching the stove and is being burnt; I must pull it away" and then remove your finger? Hardly! You jerk your finger away without thinking at all. As a matter of fact you jerk your finger away before you really are conscious of any pain, and an instant later you feel the pain. In this case it is the centre in the spinal cord which has acted and caused the withdrawal of your finger, then the sensation of pain has been conveyed to your brain. The involuntary blinking of the eyes when an object is thrown at the face is another example of a reflex.

There is this further and important point which we must notice about a reflex action—it requires an outside stimulus to call it forth. In this way it differs markedly from what we may term a voluntary action the stimulus for which may originate in the brain of the organism performing it.

While we find reflexes lower down in the scale than in the animals we are now considering, they are more perfect and far more readily investigated in these forms which are markedly segmented.

The next point we have to consider is the sensory equipment of the Crayfish, and here I shall briefly summarize the facts without giving the experimental evidence in detail. The sense of sight is very poorly developed, being limited to the perception of large moving objects and to distinguishing between differences in light intensities. Touch is the main sense, and the animal is sensitive to contact stimuli all over the surface of the body. This may at first sight seem strange in view of the hard covering of the body, but is readily understood when we know that there are numerous pores opening through this covering, that through these pores hairs project and that at the base of these hairs are nerve cells. The sense of touch is especially well developed on the mouth-parts, and along the edge of the tail-fin. The sense of hearing is entirely absent. In the case of animals which live in the water it is hard, if not impossible, to distinguish between the senses of smell and taste. Even in ourselves these senses are very closely allied. The sense of smell is brought into play by very fine particles of a substance floating in the air, these fine particles dissolving in the moisture of the mucous membrane of the back part of the nose, while the sense of taste is aroused by substances in solution coming in contact with the taste buds of the tongue. We see that in order for either of these senses to function we must have the substance in solution. Now in the case of an aquatic animal all substances reaching the sense organs will be in solution, and the only difference will be that in one case ("smell"), the substance will be farther off than in the other case, ("taste"). We therefore do not use the terms smell and taste in the case of these animals but group them together under the name "chemical sense." The chemical sense of the Crayfish is well-developed, and resides mainly in the little feelers, antennules, and in the mouth-parts.

That Crayfish can learn is shown by experiments in which the animals were placed in a box, with an exit which divided into two paths, one leading to the water, the other to a dry chamber. The first trials gave fifty per cent. right and fifty per cent. wrong, then the number right increased as follows, 60%, 75%, 83%, 87%, 90% and 98%. Further it is interesting to note that the right path was remembered for two weeks.

(To be Continued).

THE HORSE.

Size Up the Stallion Now.

With the falling off in importation, necessitated largely by the war, the number of really high-class, draft stallions in Canada has not increased very fast during the past two or three years. The comparatively slow sale for geldings, fillies and in fact all classes of horses has had an effect, also, in easing up horse breeding. Indications point to an approaching change in the situation, and the demand for the right kind of heavy horses may be stronger than a good many people believe before many months. At any rate, those contemplating the purchase of a stallion for this year's service should be on the lookout now. Size and substance, combined with quality, are the things to look for in a stallion. These are what the wide-awake breeder has his eyes open for, and the stallion owner must, of course, count on pleasing the breeder if he hopes to gain patronage and do the horse-breeding industry most good. Very few little horses, those under 1,800 pounds in weight, have made a name for themselves as sires of draft horses. As a general thing, the breeder prefers a horse which will weigh from 1,900 to 2,100 pounds or more, provided he has quality with size. The draft type must be pronounced. The market pays a premium for the gelding from 15.3 to 17 hands high and weighing from 1,650 to 2,000 pounds. The breeder must keep this in mind when mating his draft mares with draft sires and consequently he looks for size in the sire, and so the man looking to purchase a sire will be well advised if he pays considerable attention to size, never forgetting quality. Even for the agricultural type of horse big sires are necessary. As a general thing, this type is bred from the smaller farm mares. The best agricultural horses stand from 15.2 to 16.2 hands high, and weigh around 1,400 to 1,600 pounds, the latter weight being rather heavy for what is generally considered an agricultural horse. Then there is the third class of chunks,