

it. Psychology is the science of mind or soul or self with which the teacher deals. Someone has said, very wisely, "Tact is only applied psychology." Psychology teaches us to place ourselves in others' places, to see things from their viewpoint, not merely our own narrow or dogmatic one, even if it may be a truer one. But, having looked at things from another's focus, we should be able to show the child or adult how to read-just his glass so as to take a wider view. It should help the teacher to see how hazy at first everything seems to the little tots first coming to school.

From several works on psychology I have lately read, three things have been impressed upon my mind: First, this need of parents and teachers being able to put themselves in the child's place, and thus be led to use that tact, which is, after all, the practical expression of the Golden Rule, and is the most effectual instrument used by any leader in public or private life; second, the great importance of habit formation, especially in the early years, when the brain is plastic and the nerve centers run into those automatic grooves, so that "habit becomes second nature"; thirdly, the ability to look at life in its true proportions and relative values between the practical and the ideal.

Herbert Spencer was one of the foremost and most radical advocates of a practical education, that should fit one to meet the duties of real life. He lays the main stress upon the teaching of science, as the foundation of all arts and industries, and of the study of psychology as the most necessary training for both teacher and parent.

It is possible to grow so intensely practical that we become a practical failure. The men and women of the world who have accomplished the most practical reforms have been those of high ideals, of great faith and enthusiasm, and untiring patience. Raise the ideal of the home and of the school; encourage the teachers to zealously carry out their Normal ideals, rather than kill them by criticism; and help them by hand and heart, and look for results.

MARGARET BRUCE.

Good Roads and Other Legislation in Quebec.

THE GOOD ROADS ACT, 1912.

Any rural, village or county municipality wishing to improve its roads may pass a by-law ordering the macadamizing, stoning or grading of the roads therein described, and order, by resolution, the borrowing of the sums necessary for the making or improvement of the roads mentioned in the above by-law.

When such by-law and resolution have been approved by the Lieutenant-Governor-in-Council, the Provincial Treasurer shall be authorized to pay one-half of the interest and all the sinking fund payable in respect of loans contracted in virtue of the above resolution.

The annual interest on each loan shall not be more than four per cent.; the annual sinking fund shall be sufficient to pay off the loan in not more than forty-one years; and the total amount of the sums borrowed by municipalities, with the guarantee of the Government, shall not exceed ten million dollars.

If a municipality does away with statute labor and maintains its roads by direct taxation, it will moreover receive from the Government an annual grant equal to one-half of the expenditure made for such maintenance, but not exceeding four hundred dollars a year.

Two other laws have been also adopted, giving greater facilities to the ratepayers for the obtaining of the Government grants for the macadamizing or grading of roads.

THE "ROADS DEPARTMENT."

A law has been enacted to establish a Roads Department, with a deputy minister, under the control of the "Minister of Agriculture and Roads."

PROTECTION AGAINST BEES.

A law now enacts that no hive containing a swarm of bees shall be left upon any land unless it is at least thirty feet from the nearest highway or dwelling in a rural municipality, and at least fifty feet therefrom in a town or village municipality.

CO-OPERATIVE AGRICULTURAL ASSOCIATIONS.

Different amendments have been made to the law respecting co-operative agricultural associations, with respect to loans, the reserve fund and the dividends. The dividend on paid-up capital can never exceed six per cent.; no other dividend can be paid so long as the reserve fund is not equal to the subscribed capital.

When the reserve fund is greater than the subscribed capital, the association, after having paid dividends not more than six per cent. of the paid-

up capital, may distribute the remainder of the profits among the shareholders, in proportion to their dealings with the association, upon the basis established by the directors.

Field Horsetail Poisonous.

Editor "The Farmer's Advocate":

In the issue of "The Farmer's Advocate" for April 11th there appeared a letter in reference to the suspected poisonous nature of the common field Horsetail (*Equisetum arvense* L.), to which my attention has been called.

In reply to this, I desire to put on record my experience with this far-too-common weed, collected during the poisonous plant investigation carried on by the Division under my charge. The poisonous nature of a closely-related species of Horsetail (*Equisetum palustre* L.)—by no means rare in this country—has been established beyond any doubt. This plant is correctly considered a highly-injurious weed, both in the green and dry state. It is the common experience of observers, however, that in the green state this plant, and indeed a large number of other poisonous plants, is rarely eaten by stock; their power of discrimination serves as a pretty safe protection. As a rule, young and inexperienced animals fall victims to poisoning by plants more readily than older animals. In the dry condition—in hay, for instance—no animal is able to select its food, and hence the largest number of indisputable cases of plant-poisoning are due to giving contaminated hay as food. Another point of interest is that some kinds of animals are far more susceptible to plant toxins than others. Thus, pigs and sheep are singularly immune. Cattle and horses also vary greatly in their susceptibility. *Equisetum palustre* L. is far more serious to cattle; indeed, often proves fatal, while it causes but slight trouble to horses.

Equisetum palustre L. has long been recognized as being a fatal poison, and the most recent investigations confirm this conclusion.

As regards the common field Horsetail (*Equisetum arvense* L.), however, opinions continue to differ, some investigators regarding it as quite harmless, others of slight importance as a weed injurious to stock from a mere mechanical aspect. In our experience, cattle do not suffer any inconvenience at all from this weed, or only very slight disturbances of their digestive organs, while horses seem conspicuously subject to fatal poisoning by this species.

In co-operation with Dr. Rutherford, Veterinary Director-General, I have been enabled to collect some very important data concerning this herb. A considerable number of cases of horses being mysteriously poisoned, led to my causing an examination of the herbage to be made by a trained botanist, and the constant association of this weed in such cases ultimately induced me to publish an account in my report for the year ending March, 1910, warning farmers against this weed (Dominion Experimental Farms Report, 1910, p. 280). Meanwhile, I have continued my investigations, which have now established that the common field Horsetail is seriously poisonous to horses, at any rate.

A considerable number of cases of horses being poisoned have been reported during the last year, and an examination of the hay on which they were fed revealed in every case the presence of this species of *Equisetum*; moreover, as soon as the food was changed, the horses, if not too seriously affected, made a rapid recovery. In no case was there present any other poisonous weed that could have been responsible for the trouble. Also, the symptoms recorded by experienced veterinary surgeons were the same in every case, so that the evidence is very conclusive.

After calling attention to the properties of this weed, I received a large number of inquiries which show that cases of poisoning are occurring far more frequently than one would have been led to believe.

One typical case came to hand but a day or two ago, which I quote, to enable your readers to draw their own conclusions:

"We have a very common and peculiar disease in this locality, which I call a form of spinal meningitis.

"Symptoms—Staggering gait, partial loss of motive power, very excitable, and good appetite.

"As disease progresses, mucous membrane congested, constipation, urine highly colored, complete loss of motive power, deglutition lost, heavy breathing, convulsions, and death.

"In all the numerous cases that have come under my notice and treatment, I find a certain rush or weed in the food, which I am forwarding to you.

"I honestly believe the toxins from this weed are the cause of this disease, and I further know that there is little use in treating patient if allowed food with weed in it, for they seem to have a craving for weed if once affected with this disease; and if this weed is kept away from them,

and the patient able to stand with internal antiseptics, etc., will recover to perfect health."

The weed submitted to me for examination was *Equisetum arvense* L., common field Horsetail. The description of the symptoms of the diseased animals agrees very closely with all other records and those known of cases of poisoning by *Equisetum palustre* L.

Anyone observing these symptoms should at once change the food and submit a sample to me for examination. Dr. Rutherford kindly informs me that the treatment which he recommends, and which has been proved successful by those who have had the opportunity of investigating cases of poisoning by this weed, consists of a liberal allowance of clean, easily digestible foods, the administration of a sharp purgative, followed by good-sized doses of nux vomica (two teaspoonfuls in food three times a day).

When this treatment is begun before the horses loose the power to stand, and can be kept on their feet, their lives can be saved in practically all cases.

In conclusion, I might say that these weeds grow commonly in moist, undrained localities. They will soon disappear if proper drainage is provided. It may also be useful to encourage the growth of good fodder grasses by giving the land a top-dressing with seed at the rate of 10 pounds per acre. This would tend to reduce the percentage of the Horsetail in the hay, though this practice should not be considered a solution of the problem.

I trust this reply will answer Mr. Dearness' letter, and will be of interest to your readers generally.

H. T. GUSSOW,
Dominion Botanist.

A Day with a Pioneer.

By Peter McArthur.

The Pioneer came in the morning, and I promptly declared a holiday. He wanted to see Mr. Clement's tree—that is, the tree that Mr. Clement pruned last February. He had ideas of his own about pruning which were based on many years' experience, and I was quite prepared to listen with respect, for his apples were famous when I was a boy. They took the prizes at the local shows, and he always had apples whether there were others in the country or not. But before I would take him out to the orchard, there was a session by the fire, for it was a raw morning, and that gave me my chance. Although I was not only willing, but anxious to hear all he had to say about orcharding, there are more important things to discuss with a pioneer. There will be orchards for ages to come, and wise men to tell how they should be handled and cared for, but only a few years more will we have the privilege of hearing of the building of Canada from the lips of the Pioneers. My friend is 86 years of age, still hale and bright, and with a vivid memory of his early experiences in the country. His visit to me was on the sixty-second anniversary of his arrival in the country. That was before the building of the railways in these parts, and was sufficiently far back to be altogether different from anything we have now. His work was done in the log age—the age of log houses, log barns, log fences, log heaps—logs everywhere that had to be got rid of. He had retired from active farming long before the beginning of the cement age—so that his experiences were sufficiently removed from those of to-day to have the charm of novelty. The young people of the cement age know absolutely nothing of the log age or of what was endured and enjoyed in this country less than a lifetime ago.

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He had much information that I wanted, but the trouble was to get it. He was willing enough to talk and tell me all I asked about, but I did not know what to ask. My trouble is that the things I want to know about pioneer life always seem unimportant. What I am hunting for is the things that cast a light on the pleasures and hardships of the early days. And that doesn't mean the clearing of the land and the building of the houses and barns. All pioneers start in by telling me that sort of thing, and it is only once in a while that I get something illuminating. For instance, I had been delving into these matters for years before I found out that the greatest hardship many of the early settlers had to endure was homesickness. The loneliness of the wilderness made them long for their old homes as the children of Israel longed for the flesh-pots of Egypt. But none of the Pioneers I talked with ever thought of mentioning that to me. Perhaps they considered it a sign of weakness. In time, most of them learned to love the new land in which they had hewn out homes for themselves, and that made them forget the old. But homesickness was a very real hardship when Canada was being cleared. Few were free from it, and some it drove to madness. I am mentioning it here merely to show how hard it is to get at the real facts. No questioner would think of asking about homesickness. I stumbled on it by