defeat the Hun. No election can be carried on without dividing the country, to some extent, against itself. The only people in this country who could possibly desire a polling day during war time, would be those who expect to gain some advantage through a trial of strength between the two great political parties. Canada should have no party, clique, or class in this crisis. The people have shown their confidence in the present administration, and nothing would be gained by an election. The best men on both sides of the house would not favor it, and the country does not want it. We have read that it is proposed to extend the life of Parliament to October the 7th next. Why not to the end of the war?

Nature's Diary.

A. B. Klugh, M.A.

Now that we have examined the environment fairly carefully we are in a position to deal with the different plant formations which we find in different environments. From what we have said of water we can see that of all the factors of the environment it is the most vital, and the most direct in its influence. Consequently, on the basis of the available water, we divide plants into societies or formations. In order to get a bird's-eye view of these formations and the conditions under which they exist we can arrange them as follows:

A. Soil very wet. 1. Water Plants. 2. Marsh Plants.

B. Soil physiologically dry, that is plenty of water is usually present, but on account of abundance of acids or salts only a small quantity of the water is available for the use of the plants. 3. Bog Plants. 4. Salt Plants.

C. Soil is physically dry, that is, water is scarce. 5. Rock Plants. 6. Sand Plants.

D. Soil is moderately dry. 7. Coniferous Forest Plants. 8. Dry Thicket Plants.

E. Soil is moderately moist, and conditions are suitable for the best development of most plants. 9. Mesophytes, plants which grow under medium conditions.

As we consider in turn these different formations we see revealed the most interesting phase of modern botany, the way in which the plants of these different environments are adapted for living under these various conditions. It throws new light on plant structures, it gives a meaning to these structures, it teaches us to regard the plant as a living thing which has met these conditions and has responded to them. To know a fact is one thing, to understand the meaning of it is quite another thing. Facts alone are dry things, but facts with their meanings and reasons are interesting to all thinking people. This is true not only in botany, it is true of all subjects, and it is a theme which all who are interested in education would do well to ponder long and carefully. A mere cramming up of facts is not education, though it has long passed as such. Education consists in understanding facts, in being able to correlate facts, in being able to argue from one thing to another. In short, it consists in training in the ability to think.

The first formation which we have to consider is that which consists of Water Plants, by which we mean plants which grow in the water, either entirely submerged, or with the leaves floating on the water. Various structures are exhibited by these plants which may be regarded as adaptations to an aquatic environment. Since nutriment can be absorbed by the whole permeable surface of these plants there is no need for roots and root-hairs, structures whose function in land plants is to gather nutriment. Consequently the root system is much reduced, and the roots serve only to anchor the plants in place.

The water-carrying vessels, which are well developed in land plants, are either very much reduced, or entirely absent in Water Plants, for the obvious reason that water is available at all points. Mechanical tissue, by which we mean wood and other firm supporting structures, is also much reduced or absent, because the buoyancy of water is so much greater than that of air. Any mechanical tissue present exists as a central axis, and its function is to resist stretching and not to resist bending from side to side. Air-containing spaces are very abundant and large in Water Plants, and serve partly to float the plants and partly to conduct air from one part of the plant to another. The epidermis (outside skin) is very thin, and is not covered with a cuticle or layer of cork as is the case in land plants, nor with a coating of wax, as in many land plants. The outer layers of the stem often contain chlorophyll, which must be regarded as an adaptation to the weakness of light, due to the rays having to penetrate a layer of water.

The leaves of submerged plants are usually either very narrow or else very much cut up, the latter form being particularly characteristic of plants which grow in places where the current is strong, and apparently being an adaptation to such an environment, since broad leaves would be very liable to be torn by the rapid movement of the water. Floating leaves on the other hand are broad, and many of them are circular or nearly so in outline. Floating leaves also have stomata (pores) on the upper surface, while in submerged leaves no stomata are present.

In the case of the marine Algae (Seaweeds) we have a very interesting case of distribution as governed by the intensity of light. Near the surface where the light is strongest we find the green Algae, a little lower down we find the olive-brown Algae, and the deepest of all we find the red Algae.

So far we have been speaking of the larger plants found in water, but we must bear in mind that there are immense numbers of plants in water which are not visible to the naked eye. These are minute Algae which float freely in the water, or which swim actively about. It may sound strange to speak of plants swimming about, as the usual conception of plants is as stationary objects, but while this conception is true enough of the larger plants it is not by any means true of all plants, since many of these lower plants are just as freely motile as any animals. The only time that these minute plants are at all conspicuous is when they occur in bulk, and they then often color the water a bluish-green. Such aggregations of these plants may be seen on bodies of still water in August or early September.

THE HORSE.

Lameness In Horses VI.

SPLINT LAMENESS.

Splint lameness is quite common, and to the non-initiated, sometimes quite alarming, in young horses, and occasionally in horses of all ages. It is rarely noticed in the hind limbs. In order to understand and appreciate the trouble, it is necessary to have an intelligent idea of the bone anatomy of the horse from the knee to the fetlock. This part is usually called the cannon.

Babingly Nulli Secundus.

A Shire stallion which sold for 2,500 guineas at the Rothschild Sale in Great Britain, 1915.

It consists of three bones, one large cannon bone extending the whole distance from the knee in the fore limb, and the hock in the hind limb, to their respective fetlock joints. This bone has a somewhat broad and flat posterior surface. To each edge of this surface is attached a small, somewhat triangular-shaped bone, of considerable size above, where it articulates with the bones of the knee joint, and gradually decreases in size as it extends downwards, becoming quite small, and terminating in a small nodule, somewhat pea-shaped, a little more than two-thirds down the large bone. These nodules can readily be felt, one on each side of the limb a few inches above the fetlock. In fine-limbed horses, without long hair on their legs, they can sometimes be seen, and are occasionally mistaken for splints, especially in some cases in which one or more are larger than usual. The attachment of the small bones, commonly called splint bones, to the large cannon bone is ligamentous. A splint consists of a bony union between the large and small bones. Inflammation between the bones is set up, usually simply by concussion during ordinary travelling, especially on hard roads. As a result of this inflammation an exudate is thrown out and the ligamentous attachment is destroyed. This exudate is, of course, soft at first, but soon becomes converted into bone and unites the large and small bones by bony union. An enlargement of greater or less size can usually be seen, which, in most cases, gradually disappears by absorption until nothing can be noticed, and in many cases cannot be detected by manipulation. At the same time the ossific (bony) union between the bones is permanent. Hence a horse that once has a splint will always have it, although all visible symptoms have disappeared. We often hear people say that, "a horse over seven years old never has a splint." This arises from the fact that the visible enlargement has usually disappeared by the time the animal reaches that age, but, as stated, the union between the bones still exists. This absorption does not always take place, and it is not uncommon to observe well-marked splints in horses of any age. In some cases the splint is double—that is, an enlargement is noticeable on each side of the limb—and in such cases there is generally a bony deposit extending across the posterior surface of the large bone from one splint to the other. This often causes an irritation to the suspensory ligament, which passes down this surface, and causes permanent lameness. Except in cases of this kind, and in those in which the splints are so high that the knee joint is involved, splints seldom cause persistent or permanent lameness.

SYMPTOMS.—In many cases there is no lameness, in which cases the first intimation of the presence of splint is the appearance of the enlargement, which usually gradually disappears. At the same time splint lameness is often seen. The symptoms are usually characteristic. A horse lame from splint will usually stand and walk sound, but if asked to go faster than a walk will show well-marked lameness, the head dropping decidedly when the sound foot touches the ground. The lameness is often noticed before there is any visible enlargement. When a horse, especially a young one, shows this peculiarity of lameness, splint may be suspected. In splint lameness the lameness is more marked when the horse is trotting down hill, and the intensity of the lameness usually increases as exercise is continued. Manipulation will usually reveal the seat of the trouble. By pressing between the thumb and finger, the line of attachment between the large and small bones from the knee downwards, the seat can be detected by the horse flinching when the seat of the trouble is pressed, and if severe pressure be given he will often rear on his hind legs. The usual seat of splint is on the inner surface of the fore cannon, but it may be on the outer surface or both, and is usually from 1 to 3 inches below the knee, but may be higher or somewhat lower. The hind limb is not often affected, but when it is, the seat is usually the outer surface. When we know the peculiarity of the lameness and the manner of locating it, we seldom have much trouble in locating the seat.

TREATMEAT.--Lameness is usually present only during the inflammatory stage. When the exudate becomes ossified (converted into bone) the inflammatory action ceases and lameness disappears, except the enlargement be of sufficient size or so situated that it causes irritation to the suspensory ligament, or involves the joint. Hence treatment should be directed to allay inflammation as promptly as possible. Splint lameness sometimes appears very suddenly. A horse may be driven a journey and go perfectly sound, and after a rest, when taken out to drive home, may go very lame when asked to go faster than a walk, of course, the patient must be given rest. The seat of splint should be showered with cold water frequently for a few days. This is often all that is needed, and the horse will go sound, and after a few months or longer no enlargement will be noticed. In other cases lameness is more persistent, and it is necessary to apply a blister in the ordinary way, the details for which have already been given in a former article. A second or third blister is sometimes necessary, and in some cases it is necessary to have the splint fired by a veterinarian. Where lameness does not exist it is seldom considered necessary to treat. Friction or blistering has a tendency to hasten absorption of the enlargement, but in most cases