

IMPORTANCE OF PLANT LIFE IS DISCUSSED BEFORE CHURCH CLUB

A. Hope, Official Analyst of the Dominion Seed Laboratory at Sackville, Speaks Before the Club of Christchurch Cathedral

The importance of plant life to our welfare was discussed on Tuesday night in an address before the Men's Club of Christchurch Cathedral by A. Hope, official analyst of the Dominion Seed Branch Laboratory located at Sackville.

Mr. Hope spoke as follows:
What is a plant? A simple definition is that it is something that lives and grows, which manufactures its own food; but perhaps a better definition would be that a plant is a living, growing organism that either makes its own food or appears to be related to plants which do make their own food. Plants need not be stationary as some of the lower forms have the power of locomotion in water. Then, some plants are insectivorous. Examples are: Venus Flytrap and the Sundew. In Venus Flytrap the two halves of the leaf blade have long stout teeth on the margin. When an insect alights upon the leaf and touches one of these teeth, the two halves fold together and the captured insect is digested by the plant. In the Sundew, the leaves are covered with hairs at the tips of which is a sticky substance and the insect caught in this way is also digested by the plant.

The first plants to influence the human race were the grasses, as they were the chief food of herbivorous animals. Climates and soils and the

plants associated with them have been responsible also for wars, revolutions and migration of races. In the early stages of development, men travelled wide areas in search of pastures for their flocks or in pursuit of game which were seeking feeding grounds. Many of the migrations recorded in the Old Testament comprise the story of man's search for grass. As populations increased, people travelled from one area to another and dispossessed tribes holding lands superior to their own. A similar instance occurred in the late period of the Roman Empire, thus changing the history of Europe. On this continent it may be recalled that one of the causes of the American Revolution was the attempt of Britain to reserve to herself the best timber for use as masts which the colonists regarded as their property. Then, cotton was a factor in the American Civil War and opium in the Anglo-Chinese war of 1839.

Plants are necessary as food for man, for whether he eats plants or not, he must derive his food from the plant world. He may eat meat or eggs or drink milk but to get these, grass is required for his sheep and cattle and grain for his poultry. He requires plants also for medicinal purposes; trees to supply materials for building, for paper and artificial silk and plants for cotton.

In recent years the importance of plants is shown by the insistent claims of certain powers for colonies so that crops requiring a tropical climate can be grown to feed their population and for export. I may mention coffee, cocoa, palm oil, sugar and rubber. The relationship of these demands or aspirations to war is apparent at the present day. Plants are essential in the economic life of a nation. In Canada the annual value of the wheat crop might be three hundred million dollars, most of which is exported, and therefore is paid for in goods which we do not produce. The production of this crop provides

work for thousands of men in transportation services, mills, and labor. We may say that the development of civilization depends to a large extent on plant production. With the Asiatic races, rice is the staple food and perhaps forms the chief diet of hundreds of millions of people.

It is certain that most of our useful plants existed 2000 B.C., although by continuous effort in breeding and selection they have been improved to a point where they would hardly be recognized if compared with the original types.

Seeds of wheat have been found in the tombs of the Pharaohs. In passing, you may discount stories appearing from time to time as to wheat being grown from seed found in Egyptian tombs. Experiments have proved that they are untrue, as the germinating qualities of the seed had long disappeared in every case.

A Chinese emperor who lived 2000 years B.C. is supposed to have invented the plow and to have sown rice and other cereals.

It is not known when most of our useful plants developed to their present forms but the majority of the plant families were used by Assyrians and Egyptians and they owed their existence to these plants. If the human race had been compelled to subsist on wild plant, however, the formation of towns and cities would have been impossible.

We must recognize also the value of medicinal plants. The Greeks found medicinal value in certain plants which had a material effect on the human system and this, in turn, was largely responsible for destroying superstitious practices and the employment of rational treatment based on observation. As late as the sixteenth century and in some districts at the present day, traces of superstitious values attributed to certain plants exist, based partly on the appearance of the plant. For instance, kidney-shaped leaves were supposed to be of curative value for renal diseases and heart-shaped leaves for heart disease. At the present time, ergot, licorice, rhubarb, etc., are used in medicine and new derivations are being found every day.

Let us turn now to trees. In early times man obtained from trees weapons for war and the chase, shelter for his family, for game and also material for utensils. Trees are of real value in regulating climate and water. They aid in maintaining springs and streams. They prevent dust storms and erosion. They provide sanctuary for birds and game and in the aesthetic sense contribute largely to man's enjoyment of the wonders of

nature in its endless panorama of scenery. I lived on the Canadian prairies for some years and I missed the trees more than anything else.

We may now proceed to the other extreme and consider the lower forms of plant life. I refer to bacteria and fungi. Although so minute, they are beneficial to our welfare as plants which are more readily observed. A common belief is that bacteria are harmful. So some are, but the majority are indispensable to our welfare. They are necessary in the growing of crops, in producing flax, in producing wines and in the disposition of garden refuse and dead animals where, by breaking down the material, it is returned to the soil as food for production of other crops. If clover seed is sown for a crop, colonies of bacteria usually appear on the roots and nodules are formed. Within these nodules, nitrogen from the air circulating in the soil is changed into compounds used by the growing plant. Bacteria are true plants. Then, we have the fungus family which indirectly have been the cause of migrations and the development of new countries. I only cite the potato famine in Ireland last century where blight in potatoes caused thousands of Irish people to emigrate to the United States. One curious fact should be stated with regard to some of the fungi which is, their inability to complete their life cycle on one kind of plant. Often another plant acts as host for the organism which later affects other crop plants.

Then, I must also mention our gardens. Where can you find a hobby so profitable and so health-giving as in growing your own vegetables and flowers? The very act of watching the development of plants from seed is of fascinating interest and also compels one to be outdoors. Nor must the economy of producing vegetables in the garden be overlooked when the initial cost of the seed is so little. Truly, the production of economic and flowering plants in gardens must contribute to our welfare.

In conclusion, man could not exist if plant life disappeared. All plant life needs chlorophyll, the green color in plants. With this, plants are able to manufacture organic food from the carbon dioxide of the air and the water from the soil—truly a wonderful process in nature.

Teacher: "Lot was warned to take his wife and daughter and flee out of the city. Lot and his wife and daughter got safely away."

Willie: "What happened to the flea, sir?"

NIAGARA PRESERVATION TALKED

OTTAWA, Jan. 14—Ontario is interested in the proposal of Alfred F. Better, United States Congressman from New York State, to submit a bill authorizing the establishment of an international board of six members to study and report upon the best means of preventing further erosion, and therefore preserving the beauty of Niagara Falls.

Just why Mr. Better is pressing the matter is not made clear in the despatches. He may be interested primarily in power, or he may be concerned about the scenic wonders of the Horseshoe Falls, which are gradually committing suicide, owing to frequent rockslides.

From this distance it would seem that a short cut to his objective would be to persuade the Congress of the United States to ratify the Niagara Falls Convention Agreement which the Canadian Parliament approved in 1929. This pact provided for the construction of remedial works in the Niagara River, which would reclothe the shore lines, and thus preserve the Horseshoe Falls spectacle in all its glory for the benefit of thousands of honeymooners.

But it also provided for an experimental diversion of 20,000 cubic feet per second temporarily, in the winter season, when honeymooners are not so numerous, until such time as the Governments concerned could determine whether such a diversion of water for hydro-electric purposes would destroy the grandeur of the Horseshoe Falls and the ice bridges. Ontario was to get 10,000 cubic feet per second of the water so diverted.

The agreement was wrecked by the Foreign Relations Committee of the United States Senate, and it is reliably reported that the Canadian Government has been approached to discover whether it would consent to the deletion of the clause relating to the diversion of water from the Niagara River above the falls.

So if the United States desires to preserve the scenic beauty of Niagara Falls all it has to do is to ratify the convention which the Canadian Parliament already has approved, thus making a thing of beauty a joy for honeymooners, if not forever.

ENCOURAGEMENT FOR INVESTORS

The new reciprocal income tax adjustments provided for in the Canadian-United States agreement signed in Washington this week give a welcome stimulant to private and corporation investment in both countries. The 50 per cent. reduction (from 10 to 15 per cent.) allowed non-resident private investors on security incomes by both Governments and similar treatment for "unrepresented" corporations on dividend earnings have the special feature of being retroactive for investments made during 1936.

While it is impossible to do more than guess at the "savings" to the investors, some idea of the sums involved can be had from the fact that Canadians spent \$203,000,000 on United States securities during 1935, and sold \$205,500,000 across the border. Chief benefits should be for the small investors who have found mining and industrial shares particularly attractive in the past year but who were dissuaded by the taxes collectable on the earnings both at home and at their source. There should also be considerable encouragement for the "pool" investors partial to mining shares, and for those corporations seeking easily marketable investments for their sinking funds and reserves.

Only one feature of the new agreement comes into question. For some time past it has been generally recognized in this country that tax stability was essential to capital investment, particularly in the mining field. Provincial and Federal Governments have several times sought a mutual basis for such stability. Yet stability for the new rates specified in the agreement has not been assured. According to the terms, either country may increase the 5 per cent. maximum at will, thus automatically releasing the other from the bargain. Had there been a renewable time limit decided upon, the agreement would have been worth considerably more than it is.

Old Gentleman (seeing the small colored boy was having some trouble in getting away with the large melon he was trying to eat): "Too much melon, isn't it, Rastus?"

Small Colored Boy: "No, suh, boss, not enough niggah."

SOCIAL CREDIT LEADER WANTS ABDICATION FACTS

OTTAWA, Jan. 14—On the King Edward abdication crisis, Mr. Blackmore takes the strong position that the Canadian Parliament should be given the complete correspondence between Premier King of Canada and Premier Baldwin of the United Kingdom. Inclined to be critical of the way the Baldwin Government 'rushed' the matter in Great Britain without giving Parliament or people either information or time in which to make up their minds calmly about what should be done, Mr. Blackmore gave it as his opinion that if government is to be by the people at all, then the people's representatives at Ottawa should be given all the pertinent correspondence. Mr. Blackmore expressed the hope that he would be able to attend the Coronation of King George VI on May 12 next and he felt that the Parliamentary delegation should represent all parties in the House.

W. H. Estabrooks, Saint John, is a visitor to the city, a guest of the Queen hotel.

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