COPY FOR.....

"PLANTS BY THE INDIAN TRAIL"

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by

Prof. J. Davidson.

OUR LIVING WORLD

Broadcast #7,
April 25th, 1941.
C B R, 9:30 A.M.

LIST OF CHARACTERS

Professor Davidson

Gloria

John

"PLANTS BY THE INDIAN TRAIL"

BROADCAST #7. APRIL 25th, 1941. FRIDAY
C B R
9:30 A.M.

(MUSIC SCHOOL SALUTE)

ANNOUNCER: British Columbia School Broadcast.

(MUSIC THEME - "FROG KINGS PARADE")

ANNOUNCER: The British Columbia Department of Education in co-operation with the stations affiliated with the C.B.C. Network, brings to you another broadcast in the series entitled "Our Living World". This week, John and Gloria of the Explorers Science Club are going to interview Professor John Davidson of the Department of Botany of the University of British Columbia. These young scientists are interested in finding out something about the plants used by the Indians for food. Here is John talking with Professor Davidson....

JOHN: Will you tell us, Professor Davidson, about the plants the Indians use for food.

PROF. DAVIDSON: Why yes, I shall be glad to. But first I want you to see how completely we all depend on plants for our existence. We depend on plants for all our food, our clothing, and our home comforts. Now, Gloria and John, you check me up in case I say something startling.

JOHN: Well, Professor, I think you've said something startling already; I know we depend on plants for bread, tea, coffee, cocoa, and sugar; but I am not a vegetarian. I eat eggs, butter, bacon and other kinds of meat, and we depend on animals for these.

GLORIA: Just like a boy, John! Always thinking of things to eat!

PROF. DAVIDSON: Well John, if the hens didn't eat plant food you would have no eggs; and cows give us our milk, butter, and cheese from "the grass of the field"; and so with other animals whose flesh we eat. In this way we get our food from plants second hand.

GLORIA: I was wondering if all our clothing came from plants.

JOHN: So like a girl, Gloria! Always thinking of what to wear!

PROF. DAVIDSON: Now, since John has evened the score, Gloria, can you suggest any clothing which is not directly, or indirectly obtained from plants?

GLORIA: I don't think so! Cotton and linen fibres come from plants. But what about wool?

JOHN: Wool comes from the same source as mutton, from "the grass of the field".

PROF. DAVIDSON: Good!

GLORIA: How about silk? It comes from the silkworm; I suppose it depends on the mulberry tree. But artificial silk? Rayon is made in factories.

PROF. DAVIDSON: From cellulose, part of the wood of trees.

JOHN: Well, I guess what you said wasn't so startling after all.

PROF. DAVIDSON: All right! I assume that you are both agreed that we depend on plants for our homes and home comforts.

GLORIA: Yes, I think so. We need wood from trees to build our homes.

JOHN: We could build houses of stone, or concrete.

GLORIA: Yes! houses, but not homes.

PROF. DAVIDSON: You're quite right, Gloria, and there is a big difference between the two. Some people make a better home in a small shack, than others do in a large house. It is even possible to have a home without a house.

GLORIA: How?

JOHN: I don't see what you mean.

PROF. DAVIDSON: Take some of our Indians for example; instead of settling down in a house, and bringing their food from foreign countries as we do, they move their homes to the sources of food supplies; and since you are both members of the Explorers Science Club, perhaps you would like to accompany me on an imaginary trip to the Interior of British Columbia and learn how some of our Indians live.

JOHN: That would be great.

PROF. DAVIDSON: All right then, you must understand that there is a division of labor amongst the Indian people. The Indians - that is, the men, are the zoologists; so John it would be your duty to fish and hunt animals to supply all the meat for food, skins, or pelts for moccasins or clothes, and hair or wool for blankets or sweaters.

GLORIA: It looks as if I would have to stay at home and do the cooking, sewing, and mending.

PROF. DAVIDSON: Not quite, Gloria, the squaws or Indian women are the botanists, so your duty would be to collect all the plantfood, bulbs, roots of certain plants; and collect other roots, or bark to make baskets for carrying the bulbs or storing them. You treat the deer skin to make buckskin coats or moccasins, and if you want to put ornamental designs on them you must know which roots or flowers produce different colors of dyes, and how to apply these colors.

JOHN: If an Indian is going to provide all these things for his family, he's gotta be a better hunter and fisherman than most of my friends

PROF. DAVIDSON: Possibly! That is because your friends have not received an Indian education. In the interior of B. C., Indians boys and girls learn to ride horseback while quite young. I've often seen two or three little children riding on one Indian pony, and Indian boys have pony races. Every Indian teaches his boys to identify the tracks of different animals, and to tell if they are fresh or old tracks; and the boys soon learn from older and experienced Indians how to catch all the necessary fish and game. You see, Indians don't kill for sport; it's a matter of life or death to secure food for their families.

GLORIA: Out of all the plants in B. C., how do Indians tell which are good to eat and which are poisonous?

PROF. DAVIDSON. In British Columbia, Gloria, there are about 2,500 different kinds of flowering plants, many provide good food for man, others good fodder for horses, deer, goats and other game animals. But the Indians - I mean the men - know very little about the plants used for food; we have to get that information from the older squaws or Indian women.

JONN: Do you talk the Indian language?

PROF. DAVIDSON: No, and since most of them talk little or no English, it is difficult to get information of any kind, especially reliable information, without an interpreter; one whom the Indians trust.

GLORIA: How many of the 2,500 different kinds of plants do Indians use?

PROF. DAVIDSON: I'm not quite sure, Gloria, but I have a list of the Indian names and scientific names of about 200 different kinds used by Indians for food, or for medicine, or dyes; or for decorating themselves on special occasions.

GLORIA: How can they tell which plants are edible and which are poisonous?

PROF. DAVIDSON: That is a very important point, Gloria, but there are very few poisonous plants that can be mistaken for food plants. One of the most deadly is called "Death Camas" or "Poison Camas"; some people call it "poison onion", but it has no onion odour. It has a spike of creamy white flowers and rather rough leaves and, as the Indians dig the bulbs after the leaves turn yellow, they can easily tell the difference between the leaves of the deadly bulbs and those of the edible ones which are smooth.. At a very early age the little girls go out with their mothers on root digging trips. The girls are eager to learn the different kinds of roots, and during the summer you may see several Indian ponies, each carrying an Indian woman and a little girl; and perhaps a pony with two or three girls, on their way to the root digging grounds which may be several miles from their camp. Next day, instead of going back to the same place, they may be a few miles in the opposite direction. Another day, they may not go far from camp, but they have to keep in mind that they must get enough to store for future use.

GLORIA: How do they dig the roots? Do they take a shovel?

PROF. DAVIDSON: Oh no! I should have mentioned they carry a root digger and a root basket. The root digger may be made from a piece of hardwood with a slight bend in it, sometimes a branch. Or it may be the antler of some animals; but nowadays they have iron ones like a thick poker with a slight bend about six inches from the tip. They use the digger to lever up and turn over a sod; then they find lots of bulbs, large and small, exposed to view. They pick the larger, and leave the smallest. They throw the bulbs in the root basket and turn over more sods.

JOHN: What kind of bulbs are they?

PROF. DAVIDSON: Well, John, that depends on where they are digging; on the southern mainland, and on some of the Islands, they dig the Indian Camas and white Dog-tooth lilies, and in the Interior of B.C. they get the bulbs of the yellow Dog-tooth lilies - Indians call them "Skametch".

PROF. DAVIDSON: (CONT'D)... And usually along with these they find the tubers of a perennial Spring-beauty which they call "Tatuan". It looks like a very small potato - a large one is about an inch across - and they are excellent to eat.

JOHN: Have you tasted them?

PROF. DAVIDSON: Oh yes! On most of my trips among the Indians, I have tried to sample as many of their vegetable foods as possible.

GLORIA: What are Dog-tooth lilies like?

PROF. DAVIDSON: They have two leaves like a tulip, and a slender stalk with one or two yellow flowers on the top, and on the mountains of the Interior may be found in millions, so there's no difficulty in securing an abundant supply.

GLORIA: Why are they called "Dog-tooth" lilies?

PROF. DAVIDSON: If you saw a bulb you would see why! It just looks like a large canine tooth, or eye tooth of a dog.

JOHN: But are these three the only food plants that they have?

PROF. DAVIDSON: Certainly not, John. Their menu is as varied as any of ours. They eat the large bulbs of Tiger lilies, Calochortus or Mariposa lilies which the Indians call "Machalosa"; then they find many different kinds of wild onions, and masses of little bulbs of the "Chocolate Lily" and "Johnny-Jump-Ups"; some people call these "Rice-Lilies" because the bulbs are like clusters of grains of rice.

GLORIA: It seems a shame to dig up all these beautiful lilies and eat them. That robs the hillsides of all the lovely flowers.

PROF. DAVIDSON: That's exactly what I thought when first I heard of it, but I was amazed to find it did exactly the opposite. I found that all these plants were most abundant on places which had been dug over; the reason being that the seeds and young bulbs had a better chance of growing on the dug over ground; especially when you know they dig a different part each year, and leave plenty for future visits. I wish I could show you the "Bitter root Flats" between Ashcroft and Spence's Bridge in the early part of May. They get their name from a plant called "Bitter Root".

JOHN: Is it bitter?

PROF. DAVIDSON: Yes, John, it has a slight taste of quinine. The root is about the size of a man's thumb, and the flowers resemble a wild rose, in fact it is sometimes called "Sandrose" ~~or "Rock Rose"~~ - the Indians call it "Spetlum". They are actually found in millions, and when the roots are dug the Indians peel off the skin and dry the roots for future use. I've seen heaps of these skins where a number of Indians women met to peel their days collection; they must have dug many thousands. But I must tell you about what I consider the oddest food plant the Indians use as food. It is the root of a plant known as Balsam-root - many people in the Interior call it Sunflower, but it is not really a sunflower. The plant has large grey leaves, all arising from the ground, and the large yellow flowers are on stalks about a foot or eighteen inches high, but you should see the big, thick woody root, like a club about a foot or eighteen inches long, shaped like a thick carrot. The first time I saw it I didn't think it was possible to eat such a woody mass. But when cooked it tasted like sweet potatoes.

GLORIA: Like sweet potatoes? Do they cook these roots the same way we cook potatoes, and carrots?

PROF. DAVIDSON: Perhaps nowadays some of them do, but when they have a large party, they used to build an "earth oven" and steam the bulbs and roots in that.

JOHN: An earth oven? How do they make that?

PROF. DAVIDSON: Well, John, if you were an Indian and Gloria a squaw, you both help in this job. John, you dig a shallow saucershaped hole eight or ten feet in diameter not far from a creek, and line the hole with rocks, oh, about three to six inches in diameter. Of course, some of the other Indians will help you. You now build a fire over the rocks till they are sizzling hot. Meantime, Gloria, you and some of the other women or children gather leafy branches and other leafy plants to be ready, and as soon as the rocks are hot enough, John pulls all the fire off the stones, then you cover them over with leafy branches and a layer of grass or other plants.

PROF. DAVIDSON: (CONT'D)... A post is stuck in the centre, and the masses of bulbs and roots of different kinds placed around it; then these are covered over again with branches and leafy plants, and finished off with a layer of moist earth patted down, so that you have a dome shaped heap, with the bulbs inside, and the post in the centre. You pull out the post, and pour in water, which seeps amongst the hot rocks, forming steam to cook the roots and bulbs. The post may be put back again, or the hole closed to keep in the steam. Cooking is completed in eight to twelve hours or more, depending on what is being steamed. The Balsamroots need about forty-eight hours so you have to cover them well to retain the heat that length of time.

GLORIA: Do the Indians find all these different kinds of food plants in one district, or do they have to move to different parts of the Province for them?

PROF. DAVIDSON: Most of their camping grounds are in some valley near a small creek, in districts where certain kinds of food plants are abundant. In spring, they are on the lower ground, because, at that season, the hills are covered with snow. Then they move to another camping ground where the surrounding country has an abundance of some other plant, which provides a change of menu.

JOHN: Well, if several families of Indians arrived at the same camping grounds at the same time, would they fight for that piece of ground?

PROF. DAVIDSON: No, John! You would probably find all the Indians would go off hunting together, and the squaws would form a root digging party, and have a good time. Though several families may meet at one camp-site, each family may take a different trail and proceed to other districts where they know there is abundant food for themelves and their ponies. Gradually, as the season advances, we find them up on the higher regions where, after the snow has gone, Indians find deer and other game, feeding on the luxuriant vegetation of the higher slopes, while the women collect supplies of blueberries, wild currants and saskatoon berries, to dry, or press into cakes for future use.

GLORIA: If different lots of Indians camp on the same ground year after year, doesn't the firewood become scarce?

PROF. DAVIDSON: I've never found it so, Gloria. You see, the Indian builds a small fire and sits close up to it, whereas the average white person builds a big camp fire and sits away back from it, because it is too hot to be comfortable. We always find plenty of dead trees or branches on the ground, and nearly always find a small pile of wood left by the last campers, and we do the same for the next visitors.

JOHN: We often find good places when we go camping, but it's hard to find tall slender trees for tent-poles. How do the Indians solve that problem?

PROF. DAVIDSON: I'm glad you mentioned that, John, because it gives me a chance to tell how careful and economical the Indians are. As a rule, when you arrive at an Indian camping place, you will not find old tent poles lying on the ground to rot. If you look a short distance around, you will find a cache of tent-poles standing on end, leaning against some spruce or fir tree, protected from sun and rain, so that the same poles can be used by many families for several years. That is one of many lessons I learned from the Indians, and I pass it on to you and all other young campers. When your camp is over, stand all your tent-poles and logs on end in the shelter of an evergreen tree and help to protect the young trees in our forests. Also, practice building a small camp fire and sitting close to it. A small fire is less liable to carry sparks and start other fires, and it is easier to put out when you are done with it. Of course, every good camper burns up all his rubbish, and leaves the ground tidy and clean for the next visitor.

GLORIA: Let's go back to the plants, Pfofessor Davidson.

JOHN: Yes. Are all the Indian food plants really good to eat?

PROF. DAVIDSON: Well, John, I have not sampled all of them, but of the many I have tried, there is only one I did not enjoy- in fact, I disliked it.

GLORIA: Please tell us about it.

PROF. DAVIDSON: Well, in a way it was rather funny, and I'm afraid the joke was on me. One very hot day, after a trip to Bitter-Root Flats, we made camp at sundown close to an Indian trail by a nice cool creek. I was sitting on my blankets on the floor of my tent, writing up notes and fixing specimens collected during the day. Jimmy, my guide, was in the midst of preparing a supply of Bitter-root for me to sample, when an Indian named Lulu rode up towards our camp and, recognizing Jimmy, he entered into conversation with him in the Indian dialect, during which he asked Jimmy why he was cooking "Spetlum". You see, the women usually do that, and Lulu was amused to see a man doing it. So Jimmy told Lulu that the white man wanted to sample the different kinds of Indian food. Their conversation ended with a roar of laughter and Lulu rode off. About half an hour later, while we were busy pressing and labelling specimens, we heard the sound of a galloping horse, and here was Lulu back again. He said a few words, threw something into my tent, and galloped away laughing. My guide picked up the object, took his knife and cut a thin slice and began chewing it; then handing it to me said "Another Indian food". It was a black mass of jelly or rubber-like material, resembling a thick rubber sole, or piece of a motor tire. Folowing Jimmy's example, I took my knife and cut a thin slice to taste it. It dissolved into a glutinous gritty, tasteless mass which I dared not swallow. I have never tasted a mixture of glue and soot, but I think it would have a similar taste. My guide asked if I could identify the plant; but even with the aid of a pocket lens, I could recognize no vegetable structure. He told me it was prepared from a lichen which is commonly called "Black Moss" and which we find in abundance hanging from the branches of trees in the drybelt. The Indians collect this lichen, moisten it and steam it, and then pour it into some mould to gel. It can then be stored for future use - for thickening gravey, or similar uses. I was told that an Indian might take a piece of this during a long journey in case of hunger; but he can eat only a small quantity at a time -- too much would make him sick. This I can quite believe - a very little was too much for me.

JOHN: Where did Lulu get the stuff?

PROF. DAVIDSON: I learned that he had a small Indian ranch about a mile up the valley, so he went home and brought it back to be on time for our supper. The following morning we visited his ranch and returned the remainder of his "rubber shoe" with profuse thanks. I wish you could have been with me. You would have been amazed and amused. Lulu was a real inventor. He had a vegetable garden and flower beds. I don't think you could guess what he used as an edging for his flower beds.

GLORIA: What did he use?

PROF. DAVIDSON: Glass.

GLORIA: Glass?

JOHN: Glass?

PROF. DAVIDSON: Yes. He had scores of those four-sided bottles - gin bottles I think they are - set side by side, close to each other all around the flower beds; some were yellow glass, and some clear. They were buried upside down with about two thirds of the bottle above ground.

GLORIA: That was a new way to edge a garden.

JOHN: Where did he get all the bottles?

PROF. DAVIDSON: That was the first question I asked Lulu, and he told me that - remember this happened more than twenty-five years ago - the Hotel at Ashcroft threw out all that kind of empty bottles, and any time Lulu drove his wagon to Ashcroft - about eleven or twelve miles from his ranch - he brought a supply of empties home, till he had enough to plant all around the flower beds.

JOHN: Quite a plantation!

PROF. DAVIDSON: Yes, quite! But you should have seen his irrigation system for his garden. From the creek behind his house, he build a small V-shaped flume supported at intervals by wooden props, and led this across his garden to the top of a hollowed out tree stump about six feet high. This formed his reservoir for storing water. Through the sides of the stump he inserted three iron pipes; one led to a drinking trough on the other side of the fence.

PROF. DAVIDSON: (CONT'D)... One ended in a water tap to which a hose was attached for watering the flower-beds, and one went across part of the garden and into the kitchen where he had a sink installed. All the water from the sink was led out to the vegetable garden, so that nothing was wasted. This might be termed an "irrigation plant" by the Indian trail.

JOHN: I think we can learn many lessons from the Indians as a result of our interview with you, Professor.

GLORIA: I certainly do, and in future when I see an abundance of wild flowers, I'll think of the Indian women and the "Plants by the Indian Trail".

PROF. DAVIDSON: Well, I've enjoyed talking with you both,

JOHN: Thank you, Professor Davidson.

GLORIA: Yes, thank you very much.

(MUSIC THEME)

ANNOUNCER: You have just been listening to Gloria and John of the Explorers Science Club who have been interviewing Professor John Davidson of the Department of Botany of the University of British Columbia. This has been the last in the series entitled "Our Living World", presented by the British Columbia Department of Education and the Canadian Broadcasting Corporation.

(MUSIC FILL)

THIS PROGRAM WAS FROM VANCOUVER.

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