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This Is Your University: Eyak Indians History of their Language, Dr. Krauss 1964-1965 Wildlife Students; Arctic Research Lab at Point Barrow; University System; Ptarmigan Studies; Japan and University of Alaska Study of Volcanoes; Dr. Hessler in Antarctica about the Auroras; Automation and its Effects on Alaska

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Series: This is Your University series tapes

FIRST EPISODE: Eyak Indians History of their Language, Dr. Krauss

ANNOUNCER: Bob Olsen

Future scholars will be indebted to a University of Alaska linguistics professor for research he is conducting on a nearly extinct language. Dr. Krauss has been working with the survivors of the Eyak Indian tribe, which has a history of several thousand years.

This is the smallest and least known in Alaska, with fewer than 10 members left who can speak the Eyak language. They are elderly and only three are fluent. Dr. Krauss started his research in 1961. Grandma Minnie Stevens, the last who spoke the language eloquently, died in Cordova. Dr. Krauss has been working primarily with the three fluent speakers, Grandma Stevens' daughter Marie Smith, Lena Naktan(?), and Anna Nelson Harry(?).

Dr. Krauss came to Alaska as a Carnegie visiting professor and holds degrees from Harvard, Columbia, the Sorbonne, Chicago University, Western Reserve University and the University of Iceland.

In 1961, the National Science Foundation awarded him a grant to chart the languages of Alaska, giving special priority to those near extinction.

According to Dr. Krauss, Alaska has two main language groups, Eskimo-Aleut and Na-Dené. Eskimo is divided into Inupiaq in the north and Yupik in the south. Approximately 12,000 Natives can speak Yupik from Prince William Sound to Norton Sound. About 4,000 have knowledge of Inupiaq on the Seward Peninsula and on the Arctic coast. Aleut speakers live in

the Aleutian chain and in the Pribilofs. Eyak, which is related to Athabaskan and perhaps Tlingit and Haida of the Na-Dené group, is rapidly dying out.

Native groups with knowledge of their language are dwindling rapidly, according to Krauss. Parents have switched over to teaching English to their children, which is encouraged by teachers.

Three thousand years ago, ancestors of the modern Athabaskans and Eyaks were concentrated in an area of central Alaska and the Yukon. A small group of Eyaks, perhaps 100-150, left the area and settled near Cordova and Yakutat. Later some of the Athabaskans eventually scattered to southern Oregon, Northern California and even the Southwestern United States where they are known today as Navaho and Apaches.

Russian adventurers "discovered" the Eyaks in the early 1800s. The scholar, diplomat and aristocrat Retsinov(?) was the first to document any of their language. He collected a vocabulary in 1805 which was eventually published in 1857. Two other small works collected by the Russian Governor Wrangell and Furugelm were published in 1839 and 1872.

The United States purchased Alaska in 1867 but lost track of much of what the Russian had learned about Alaska Natives and completely lost track of the Eyaks. As a result, says Krauss, we knew little about the Eyaks who were passed off as Tlingitized Eskimos. The Eyaks were not again recognized as a separate tribe until 1930 by Frederica de Laguna, a noted American anthropologist. These studies prompted a 1933 expedition by a team of Danish and American explorers. In the next 28 years, only two linguists did any research on the Eyak language.

But limited background material was only one of the problems Krauss encountered. Other than his three fluent language informants, he has found only three others who have some knowledge of Eyak. These are elderly people who have not spoken much Eyak in 50 years. Other than a few other very old people in Yakutat who may remember a few words from their youth, these are the only survivors of the Eyaks.

Dr. Krauss hopes to preserve a complete vocabulary, grammar and some folklore texts.

SECOND EPISODE: Wildlife students

ANNOUNCER: Charles Northrop

Note: very similar to the first episode on 00-00-156, "The Wildlife Student" with Ken Burton as the announcer.

In their quiet day to day routine of lectures and research, wildlife students at the University of Alaska become well informed about Alaska's size (586,400 square miles) and resource potential. The university's wildlife program offers a vast "backyard workshop" of Alaskan land and has attracted students from as far away as Formosa and the state of Florida. About half of the students enrolled this year come from outside the state.

Since it was started in 1951, the Department of Wildlife Management has shown rapid growth, primarily during the last decade under the direction of Dr. Frederick Dean, a graduate of the University of Maine and the State University of New York.

Several graduate students studying biology, classifications, reproduction and survival of fish throughout interior Alaska provide excellent testimony of the contribution to the state's welfare the department is making while at the same time training future wildlife professionals.

In the past three years, under the direction of James Morrow, one of the top authorities on fish in the U.S., wildlife students have explored nearly 600 miles of the Tanana and Yukon rivers, their tributaries and other interior streams.

Lloyd Chan(?) of Taiwan and Kenneth Atl(?) of Wisconsin, place traps, gill-nets and trammel-nets at points in the rivers from Fairbanks to Tetlin in the Tanana Basin and from Circle City to Eagle along the Yukon. These sampling spots are used to analyze the water, take temperatures, note the weather and survey the surrounding terrain and foliage to determine what types of fish there are in interior Alaska and why they are there. Samples of sheefish, burbot, Alaska blackfish, freshwater sculpin and others species are collected and returned to the university laboratories to undergo tests. In another project, initiated a graduate student from California, studied the relation of water temperatures to the survival and propagation of fish in the Chena River. Another student from Wisconsin, who is now employed by the Alaska Department of Fish and Game, researched the effect a power dam on the Chatanika River had on the biology of fish.

Besides providing the material for master's theses and articles for professional publications, the projects add to the basic knowledge of Alaska wildlife. "We are attempting to train fishery biologists," said Dr. Morrow who spent 11 years at the Yale oceanographic laboratory and has participated in oceanographic expeditions. The state needs people who understand the biology of fish, with the goal of using the fish resources of the state to their best possible advantage.

The study on the powerdam's effect on fish is expected to have practical application in the management of salmon fisheries and the fish and wildlife service feels that it may contribute to knowledge to the construction of a flood control dam on the Chena River.

Another practical aspect of the wildlife program is a commercial fisheries course started in southeastern Alaska in 1961. Although based in Juneau, Professor Jack Doyle, a University of Washington graduate and commercial fisherman himself, roams southeastern and western towns from Ketchikan to Kodiak teaching commercial fisherman the latest methods of their trade. This program is administered by the Division of Statewide Services.

THIRD EPISODE: Arctic Research Lab at Point Barrow

ANNOUNCER: Bob Olsen

The University of Alaska has its most northern permanent research station in the Eskimo village of Barrow. The Arctic Research Lab (ARL), operated by the university for the U.S. Office of Naval Research since 1953, provides facilities and services needed for research in fields related to the arctic environment.

The past two weeks ARL has been the center of nationwide attention as scientists from the national aeronautics and space administration repaired a Nike-Cajun rocket which they were preparing for firing form a site near the lab.

The university and the ARL have cooperated with NASA in the design and construction of the launch facilities. The climate and permafrost presented special problems. A series of three rockets was scheduled to be fired in late January and early February.

During the history of ARL, 28 different agencies and 56 colleges, universities or other research institutions have enjoyed its facilities and services. About 600 individual scientists and technicians have been assisted, many returning intermittently or annually.

The ARL has established and supported research stations on floating ice islands. Out of four such stations, two are major facilities and currently in use. T-3 (Fletcher's Ice Island), an ice island originally occupied by the U.S. air force, has been under ARL support since 1962. It presently supports a marine biology research program in the Arctic Ocean.

Ice island ARLIS II was 40 miles off the coast of Greenland last week. Since its discovery by ARL director Max Brewer in 1961, ARLIS II has taken quite a journey. The cake of freshwater ice, about 1.5 by 3.5 miles, has had passengers from the laboratory since it was 130 miles to the north of Point Barrow. Since 1961, it has moved in a zig-zag course east across the Arctic Ocean, coming into close contact with the North Pole and twice crossing the International Date Line. It has served as a roaming laboratory on which scientists from several nations have researched the climate, water, ice, the sea bottom and other features of the Arctic Ocean.

The 2,800 mile round trip from Point Barrow to ARLIS II takes about 22 hours flight time in an Navy R4D aircraft, similar to a DC3. The laboratory has made 40 such trips, each year since 1961.

How long the ice island had been floating on the Arctic Ocean is not known. Some believe it is the island sighted in 1909 by Admiral Perry on his sledge trip to the North Pole. Others believe it is the island photographed by Eskimos off Point Barrow in 1931.

The island may easily be mistaken for a real island because of its rock covered hills rising 40 feet above the surrounding ice floe, mud and stunted vegetation.

More than 20 scientists and support personnel on the island today will stay on ARLIS throughout its voyage through the Greenland Sea. This is an exciting prospect, as little is known about the Greenland Sea and little research has been accomplished there since a Russian-manned ice floe station crossed the Arctic Ocean and entered the Greenland Sea in 1938.

The Arctic Research Laboratory staff is comprised of 10 in administration, 7 pilots and mechanics, 5 part–time office workers and 30 other support and service personnel. Thirty-one of ARL's staff members are Eskimos.

There are plans for a modern laboratory complex to replace the temporary-type structure now used.

FOURTH EPISODE: University System

ANNOUNCER: Bob Olsen

The university's teaching, research and service projects stretch 3,000 miles from Alaska's southern tip to floating ice islands in the Arctic Ocean and the Greenland Sea. In between, are community colleges in six cities, research laboratories and experimental units in many other communities and hundreds of Alaskans obtaining education through evening courses, correspondence study and special extension courses.

The variety of activity and complexity of organization of Alaska's state university is surprising if one is used to thinking only of the professor and student in the typical classroom. The university means different things to different people:

To an Eyak Indian near Cordova, the university is a professor who lived in his village to document his almost extinct language. To the adventuresome, it is a floating ice island in the Arctic Ocean manned by university scientists. To a man on the remote Bearing Sea island of St. Paul, the university is a monthly envelope containing the next correspondence lesson. To a farmer in the Matanuska valley, it is an agronomist with the agricultural experiment station,

who has developed a new strain of hardy grass. To 42 students in the village of Adak, it is a weekly class in accounting, American government or international relations. To students from 41 states and 16 foreign countries, it is an opportunity to learn well from a dedicated faculty.

The Division of Statewide services is constantly working to make all of Alaska the university's campus and make education available in remote locations to people who otherwise would not have the opportunity. The service department with the longest record is the Cooperative Extension Service in Agriculture and Home Economics, which was launched in 1930.

Extension teachers often live out of suitcases: A bright eyed grandmother carries education by bush plane and dog sled to the Native residents of the Seward Peninsula. Mrs. Gladys Muskrow(?) works out of Nome, travelling with pressure cookers and sewing machines, teaches 4H club leaders and members teaching them how to lead meetings and other skills and teaches Native women to can with pressure cookers and to sew with fabric.

The Department of Evening Classes and Correspondence Study offers credit courses throughout the state at many locations that do not have community colleges, as well as evening classes on the main campus at College. This department also serves military personnel in Alaska.

The Department of Summer Sessions, Conferences and Short Courses offers traditional-type courses as well as those designed to meet specific Alaska needs like COPAN, the college orientation program for Alaska Natives. The Mining Extension, the Commercial Fisheries Extension and the Civil Defense education programs are also geared to special needs and conditions in Alaska.

The Department of Audiovisual Communication serves the instructional needs of the university faculty while simultaneously offering a statewide film and film strip service.

Alaska's education level is extremely high having the highest percentage of high school graduates of all 50 states and being second only to Utah in the percentage of school years completed by adults.

FIFTH EPISODE: Ptarmigan Studies

ANNOUNCER: Bob Olsen

In the winter, the ptarmigan migrates from the shores of the Arctic Ocean only as far south as the Koyukuk River, 80 miles from the Arctic Circle. The Koyukuk region of the Alaskan interior is often colder than the Arctic shores. The ptarmigan is a northern grouse that turn white in the winters and is found in great numbers in the Arctic and Subarctic.

The short 500 mile migration of the ptarmigan makes it an easy subject for year-round study by the University of Alaska's Institute of Arctic Biology.

During the winter ptarmigans eat shoots, twigs and buds of willow shrubs. Ptarmigans are so selective that, of the 5 species of willow available at times in winter, it almost exclusively favors one type. This simplifies the scientists' study of the ptarmigan diet.

According to Dr. Laurence Irving, director of the institute, the bird appears to get along better on its winter diet than on its more diverse summer diet.

The study of ptarmigans is only one of the projects of the Institute of Arctic Biology since it was established in 1963. The institute is staffed by eight scientists. One of the questions being explored by the institute is, "How do animals adapt to the cold environment and what can man learn from their adaptation. Study on this subject has led to greater knowledge of the biological system that permits discharge of hear through the hands and feet. Studies of Eskimo volunteers who have spent their lives in the Arctic show that their bodies adjust themselves to the cold and can endure exposure that would freeze the hands and feet of people raised in more southerly climates.

Currently, most of the research is in the area of animal physiology. This is carried out through the institute's laboratory of zoophysiology. Plans are underway for additional laboratories in human ecology and plant physiology.

A new biological sciences building in the university's Arctic Research Center complex is under construction.

SIXTH EPISODE: Japan and University of Alaska Study of Volcanoes

ANNOUNCER: Bob Olsen

A new cooperative research program on volcanoes – one of two University of Alaska projects in connection with the United States and Japan Cooperative Scientific Program – is underway. The program is financed by a grant from the National Science Foundation and under the guidance of the university's Geophysical and Marine Science Institute.

The aim of the project is to learn more about the geochemistry and petrology of volcanic rocks from the sea mounds in the Gulf of Alaska and in the interior regions of central and northwestern Alaska as well as to study the volcanic gasses from Mount Trident and Mount Wrangell volcanoes.

The principle investigators are Dr. Robert Forbes of the University of a Geology Department and Geophysical Institute and a scientist form the Tokyo Institute of Technology.

Since last November, two Japanese scientists have been working at the university alternately, laying the groundwork for field research next summer.

The field studies may require some mountaineering ability. Researchers plan to descent from the summits to the bases of Mount Wrangell and Mount Trident, collecting volcanic samples. They will begin the Wrangell project from a summit research station at the 13,800 foot level. The research station may be the only one in the world heated by a reservoir of hot lava from a previous eruption.

The research station is a wooden structure erected six-man University of Alaska team last summer supported by a U.S. helicopter team from the U.S. Arctic Army Test Center at Fort Wainwright.

Mount Trident, about 6,000 feet in height, is located on the Alaska Peninsula near Mount Katmai, which erupted violently in 1912, darkening skies the world over. Trident is regarded as the most active volcano in the Katmai National Monument. The scientists are taking special precautions over possible eruptions On Mount Wrangell, Dr., Eduard Berg, of the university's Geophysical Institute, and Department of Geology, is supervising installation of a seismic warning system. It will monitor any preliminary tremors which usually precede an eruption. Camps will be established down the side of the mountain to enhance a quick descent in the event that helicopter support is not immediately available.

It is hoped that the study will shed more light on which system of volcanoes Mount Wrangell belongs to, a subject of conflicting theories. It was believed that the volcano belongs to the Aleutian Arc System but it may be more closely related to the volcanoes of the Pacific Northwest which include Mount Reiner, Mount Adams, Mount St Helens, Mount Hood.

The scientists are investigating two major types of lava in relation to this problem: the dark, fluid basalt and dark reddish-brown andesite. Andesite is may be basalt that has been contaminated on it journey up through the earth's crust. However, in the western part of the Aleutian Arc, volcanoes erupt andesite but there appears to be no continental crust.

Dr. Forbes is concerned with the increased understanding and friendship that the cooperation between the U.S. and Japan might bring. He has personally been associated with the Japanese since he was a member of the army of occupation following WWII. He returned again in 1954 as a researcher with the Department of Defense. In 1962, he attended the International Symposium on Volcanology in Japan as well as spending a year studying there in 1963 and

1964. Dr. Forbes believes that there should be continuing interchange between Alaska and Japan, as they are both Pacific Rim peoples.

SEVENTH EPISODE: Dr. Hessler in Antarctica about the Auroras

ANNOUNCER: Bob Olsen

Russian scientist are carrying out experiments set up by a University of Alaska professor. Dr. Victor Hessler, one of the world's top authorities on the aurora and professor of geophysics at the University of Alaska's Geophysical Institute, recently returned to campus after working at the Russian research station Vostok in the Antarctic. Dr. Hessler says he feels that he has gained 14 new friends, referring to the 13 Russians and one Czechoslovakian that operate the station.

Vostok is at the core of the earth's magnetic field, a key position for studies of geomagnetism and aurora. Upper atmospheric physicists attempt to solve such mysteries as the causes of the northern lights, magnetic storms, radio blackouts, cosmic rays, whistler radio noises, radiation belts and solar flares. Scientists can study these phenomena by their effects on the magnetosphere or on the ionosphere or on both.

Dr. Hessler is studying the micropulsations of the magnetosphere which are thought to be caused by ionospheric electric currents which are produced by solar particle streams. Dr. Hessler went to the Vostok station to install equipment for measuring micropulsations. Russians will operate this American equipment, and each nation will receive a copy of the data.

A similar station operated by Americans at Thule (Qaanaaq), Greenaland is also recording data for Dr. Hessler's study and for Russian scientists.

Dr. Hellser's route to Antarctica is reported. From McMurdo Station, the headquarters for U.S. Antarctic research, D. Hessler took trips to Byrd Station and Amundsen–Scott Station. Amundsen–Scott Station (elevation ~9200 feet) served as an altitude adaptation stopover for Vostok Station (elevation ~2.25 miles).

At Vostok he joined Alaska John Jacobs, a 25 year old University of Alaska graduate student who is spending a year at the station as part of an annual exchange of scientists between the U.S. and Russia. Jacobs, the first American to work at Vostok, was investigating radio signals generated in the earth's magnetic field and maintaining the Vostok line of a continental network of forward scatter radio equipment.

The temperature at Vostok during Dr. Hessler's visit was warm: ranging -30 to -40 degrees. The coldest temperature at Vostok was -127 degrees in August of 1960.

Of the Russians, only the station doctor spoke English, which he had learned from Jacobs. And, reciprocally, he was teaching Jacobs Russian. The Czech, fluent in both English and Russian, was interpreter.

At a party to celebrate four birthdays, the camp leader proposed a toast to further scientific cooperation between America and Russia. While Hessler was at Vostok, the flags of the United States, Czechoslovakia and Russia flew together over the main building.

Dr. Hessler left campus again on Friday, headed for a drifting research station in the Arctic Ocean, about 150 miles northeast of Point Barrow, where he will stay for about six weeks.

EIGHTH EPISODE: Automation and its Effects on Alaska

ANNOUNCER: Bob Olsen

(Note: The first in a series of three radio shows on automation and its effects on Alaska and on education.)

The explosive population changes and the advances in technology and automation since WWII have far reaching consequences on education and on Alaska.

The growth of automation, coupled with population increase, problems are created whose solution seems to centered on education: unemployment, underemployment, high school and college dropouts, displaced workers, re-training of workers with obsolete skills, threats to traditions and ways of life, the youth entering a world changing so rapidly that it seems to have no place for them. These problems are present day realities.

To the nation's educators, these problems present a dramatic challenge that must be met with immediate action to avoid lasting damage to the economy and social structure of the country. Four distinct problems are facing education today because of the increases in population and education.

The first problem is the changing relationship between a man's work and his education. For the first time in human history, education stands directly between him and his occupational goals. The traditional point of entry into the work world, starting at the bottom and earning while learning, has been closed. No longer is there room at the bottom of the labor market for people without specific skills and knowledge obtained through education on semi-professional, technical and skilled levels. Sufficient technological and occupational education is an urgent need if we are to avoid society's disaster gap, that educational void between high school graduates and university graduates.

The second problem is the population explosion. The large number of college aged people, along with the new social pressures that cause the assumption that a college education is mandatory results in a serious crisis in higher education. Public universities in the U.S. are turning away tens of thousands of qualified students due to a lack of room. No longer does every high school graduate have to opportunity to pursue higher education at a public university. Entry requirements are becoming more stringent every year.

The third problem is the rapidly growing need re-education and continuing education. Much of what is being taught today soon will be obsolete. Much yet undiscovered will have to be learned. Adult education must be greatly broadened and modified. Workers will have to learn and relearn their vocations just to keep up.

The fourth problem is the increase of leisure time. The increase in efficiency due to automation is expected to justify the workday reduction in many occupations to 4 or 5 hours. This expanded leisure time will demand new approaches to the use of time new attitudes toward the concept of work and free time.