

Call number: 00-00-168 SIDE B PT. 2

Charles Keim Speaking to the Regents, 1/9/1970

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Date(s) of creation of summary: 3/4/2013, 3/8/2013, 3/18/2013, 3/19/2013

Notes: Originals on 7 inch reels. Master and circulation copies on CD.

Series: Board of Regents' meeting series

(Continued from 00-00-168 SIDE B PT 1)

The laboratory is engaged in a number of cooperative research activities. To begin, the lab is presently associated with the Institute of Arctic Biology in conducting a study for Trans-Alaska Pipeline System, Inc. of methods that might be used to re-vegetate disturbed surfaces in arctic and subarctic Alaska. A number of coop investigations between soils lab and the U.S. Forest Service are also being conducted, also. Nutritional studies with Sitka spruce and western hemlock are underway in southeastern Alaska. Primary productivity studies on alder stands on the Tanana river floodplain are nearly completed. Alder has the ability to increase the fertility of the soil before white spruce starts growing. White spruce is the one species that is of economic importance in the interior. One cooperative study entitled "Snow breakage in black and white spruce stands in interior Alaska" showed that approximately 28% and 23% of the trees in local black and white spruce forests, respectively, were killed by heavy snow and ice storms that occurred during 1967 and '68. This represents loss of growing stock to forest property owners and an increased fire and insect hazard. Another cooperative study is being conducted with the Fisheries Research Institute of the University of Washington.

The lab facilities including assistance of the lab personnel are available for the use of undergrad and grad students at the university. An introductory course in soil science is taught by the lab personnel every other year.

A continuing effort is being made to publish research results.

The speaker comments on future laboratory activities and program expansion. He says intensive forest utilization and forest management are not economically feasible within interior Alaska at the present time. However, Alaska is in an advantageous position with regard to management of forest resources. Most of the presently commercially valuable forests are in southeast Alaska, estimated at 5.8 mil acres. It is estimated that 22.5 million acres of potentially commercial forests exists in the interior. Only a small fraction of this resource in the interior is being used at present. State and federal government agencies, controlling this forest land, have no scientifically based management plan. No plan has been necessary in the past.

There is a chance for a scientifically basis to be established for forest management before exploitation of the forest commences. Basic information can be collected on biotic and abiotic factors that influence forest development prior to the time this information is needed to synthesize forest management plans.

The research activity of the forest soils lab should be expanded to include detailed studies of nutritional requirements for the major forest tree species growing in Alaska. There is little information on that subject currently. However there is information available for species within the same general that grow in the eastern United States, Canada and Europe. The speaker concludes by saying that detailed laboratory physiological studies should be imitated in controlled environments to study the influence of light, temperature, moisture, and nutrients on tree vegetative and reproductive structures and root development in order to develop a body of knowledge basic to the interpretation of the environmental effects on tree growth.

The next speaker is John Teal, speaking on the musk ox project. Mr. Teal starts out by saying that this is the 6th year of the musk ox project at the University of Alaska, the 16th year of the project to domesticate the musk ox, and the 23rd year of its intensive investigation. Mr. Teal says that the musk oxen are all, as of this morning, thriving: gambling about in the -30 degree weather and basking in the sun. Mr. Teal tells an anecdotal story illustrating how much better moose and musk oxen are suited to the climate than cattle.

The project's musk ox population is 63 animals, 33 of them were brought in in three in three expeditions in collaboration with the Institute of Northern Agriculture Research in 1964 and 1965. The first calves were born in 1967, one year ahead of schedule. There have been three complete crops of musk ox calves. This last year, 18 female and 5 male calves were born. Two of these calves were stillborn. The average birth should be 16 pounds. One of the stillborns was 33 pounds. There was also been one broken leg which required a pin. Because of this the calf was making regular trips to the hospital.

In the wild musk oxen start breeding in mid-July and stop in September. The musk oxen of the project are bred in September and deliver in May. Each bull is provided with a harem on a selective breeding basis. There are continual records kept on each animal. This fall is the first year in 16 years that the project has tried inbreeding. They have been able to find out which animals are most productive and are selectively breeding for rapid growth, early maturation, and production of underwool or qiviut.

They think that there were about 26 females were bred for production this May and early June.

The most outstanding feature of the last year has been the setting up by the textile specialist of textile workshops. The foremost of which was in the village of Mekoryuk on Nunivak Island. These people have had muskoxen around for the last 30-odd years. They cannot have domestic animals because they are surrounded by the wild ones which would, lead off the tame ones. This makes it dangerous to go out into your herd, assuming that you are walking toward a tame or domesticated animal when, in fact, it is a wild one.

Textile expert Ann Schell went to Mekoryuk last winter and taught about 15 women techniques of spinning, knitting and weaving. The number of women in the program has increased to 30, with 27 of

them making regular contributions. These women knit scarves with wool which is provided by the musk oxen of Mr. Teal's domestication program. The scarves are sent to the university and are returned to the women with instructions on how to improve their technique.

The designs they are using have been taken from ancient artifacts in the University of Alaska Museum. So, this year 27 families in Alaska have made a significant portion of their income through the manufacture of musk ox products.

Nine people are on the staff: two are supplied by the Institute of Northern Agriculture Research, one is a Greenlander who is training to start a station in Greenland, and another is a graduate student from Cambridge University in England.

There are also 40-odd collaborators at other universities that help carry our various research aspect of the program. The project's grant from the Kellogg Foundation forbids basic research. It is to be applied to practical needs that results in basic research. Consequently, all basic research is done either with Institute of Northern Agriculture Research funds or with contributions from outside.

One of the most interesting things this year has been research in the realm of skeletal measurement. One hundred and fifty seven measurements were made on a series of musk ox skulls collected from Ellesmere Island and Greenland made 157 measurements. The measurements were entered into a computer and reduced them to five meaningful measurements which will tell you how old the animal is, its condition, its sex and whether or not it is of interest to the project in terms of domestication.

Another interesting development this year was the way in which wool has been collected from the animals. Each animal, every day, had wool plucked from 11 different regions on its body, following the specifications of the Food and Agriculture Organization of the United Nations. Every piece of wool from every animal was weighed and measured. The data is being used to build a classification system just as is used for sheep and goats for which parts of the animal produce the most wool, the finest wool, etc.

Also of note are the behavioral studies. Each day some 60-odd observations are made on every animal. These observations now total over 4 and a half million. The project is waiting for computer services to run these through. This series of detailed measurement of these animals is probably as long as has ever been done on any major mammal. Eleven pieces have been accepted for publication in the year 1970.

The funding of the project is primarily through the Kellogg Foundation, which renewed its grant this year for another 5 year with a slight increase, plus a secondary grant to cover overspending from the first five years.

In terms of the renewed grant, the focus is to be primarily on introducing the results of the musk ox domestication to the villages in the coastal regions of Alaska. Because of this, Mr. Teal and two other members of his task will spend the majority of their time over the next four years out in the villages. Almost weekly, Mr. Teal says, it seems they receive a petition to have the musk ox industry brought to yet another village. They hope, before the remaining four years are up, to have established a substation

in the coastal regions as many Native people, indeed the ones that stand most to benefit from the project, do not like to come to Fairbanks but prefer to stay in their home region.

Mr. Teal finishes his speech. Lunch break is taken and the tape recorder stopped. The tape recorder is started up again. The announcer introduces Victor Fischer, the director of the Institute of Social and Economic and Government Research. Mr. Fischer says that he and George Rogers(?) will be making this presentation jointly. Copies of a factbook have been provided to the Regents.

Mr. Fischer begins by discussing the growth of the growth of the Institute from its formation, by legislative action in 1961. He shows a slide of a bar graph representing the growth of the institute and speaks about numbers of people employed by the institute.

Initially the institute was named the Institute of Business, Economic and Government Research. It was established to develop information and statistics about Alaska and useful to the development of Alaska as well as to initiate programs in research in the social sciences. Mr. Fischer explains why a special institute of this kind exists. He says there are two main reasons. The first is that the situation in Alaska is generally so different with regards to climate, population, economy, and institutional arrangements that it is not possible to simply copy what is being done elsewhere. There must be original fact-finding, interpretation and innovation related to decision making processes in Alaska. The second reason is that these special characteristics of Alaska including small population and large scale visibility of institutions make Alaska an ideal laboratory in which to observe conditions in these institutions and processes and thus provides the social scientists the opportunity to study some of these features in much greater depth.

Mr. Fischer lists the research interests and objectives of the institute: regional national economic development; utilization of natural resources; interaction between man and the environment; technology investment in human resources and the ends of education; cultural change , cultural interchange, the impact of these processes on personality; governmental institutions into governmental relations and political processes.

Mr. Fischer lists the areas of operation of research programs: Alaska and sub-regions, its communities, its cultural groups and its industries; northern North America: Alaska, Yukon Territory, etc.; North Pacific Basin including Japan and Siberia; the north polar region and circumpolar lands.

Mr. Fischer lists the service objectives of the institute: provide data and information necessary to support activities and development in the public and private sectors, including collection, processing, guiding and publication of statistical data on the economy, population, government, and resources of the state; develop and improve techniques of economic analysis and business expertise to increase the quality and scope of Alaskan business activity; promote the exchange of information and personal contacts between the University of Alaska and other institutions; train personnel to carry on continuing research functions at the university and perform necessary community services at the local level; strengthen the academic faculty of the university and assist in establishing graduate programs in the social sciences; aid in bringing the University of Alaska to a stage where it can provide necessary support

functions for local state and federal activities in the economic and social development of Alaska for more effective community planning and development .

Mr. Fischer lists major projects that have been completed and that are currently in progress to illustrate the character and scope of what is being done. He points out that the projects listed are often requested and in collaboration with various government agencies and scientific institutions. Some of the research is disseminated through a publication program of the institute. A new arrangement has been made with the University of Washington to publish several books and nationally distribute research reports on the University of Alaska's behalf. Mr. Fischer hopes that soon the University of Alaska press will be activated as it is a detriment to the university, Alaska, and the institute to not have our own press.

Having finished with the research component, Mr. Fischer elaborates on service of state and community. He says that in the fact book for the Regents, there is a list of major publications to date, a listing of the review of business and economic conditions (the latter of which is a primary means for dissemination of information about Alaska to Alaskans and people outside of the state). The institute carries out statistical collection and analysis and a variety of planning assistance to various communities and government agencies. They assist various organizations with program development. He gives a few specific examples of such assistance the institute has provided. The institute has been asked by borough and school people to initiate a continuing program of economic and population forecasting. Mr. Fischer gives of various aspects of community education and teaching that the institute is involved in.

Mr. Fischer discusses current staff of the institute and what their specialties are. He also lists some of the institute's collaborators from other organizations.

Mr. Fischer discusses financing. He says that in a rather short period of time from funding of 65 or 66 thousand dollars with 75% of that coming from the state to funding of a million dollars with only 17% of that coming from the state. Lack of funding from the state is very disturbing and could be very destructive in the long run as the research and service is so closely related to the problems and future of Alaska. Mr. Fischer gives some specific numbers. He warns that lack of funding will retard expansion of growth and provision of services by the institute.

Mr. Fischer says that he would like to mention the problem of institutional obstacles and bureaucratic jurisdictions. He was, "personally disturbed by flag waving that he heard from all sorts of directions." It was great, however, to hear Dean Smith's statement yesterday about the integral, close working relationship that is evolving. Mr. Fischer views research and education as mutually supportive activities. Mr. Fischer comments that the controversy surrounding the research that the institute does and the results that they produce is an indicator that the institute's activities are relevant.

Mr. Fischer introduces Dr. George Rogers to speak on the future of Alaska and the development of the institute. Mr. Rogers says he would like to pick up on Mr. Fischer's point on the relevance of social science research and its controversial nature being related to change. Mr. Rogers says that Alaska, particularly, been characterized by change. The changes have been dramatic. Entire structures - the economy, the social and political structures - have been changed or even replaced by new structures. Social science research is attuned particularly and peculiarly to change. Because it tries to anticipate

changes or make more identifiable changes which have occurred, the institute is sometimes an object of controversy as it is perceived as a threat to the status quo. But the institute is needed. And its growth and expansion is needed, too.

In the climate of change, we need to get the benchmarks the past has provided us; the shifts from colonial Alaska to military Alaska to natural resource/international Alaska. Guidelines are needed for future changes and hence the sort of research the institute is providing.

Dr. Rogers gives examples of Alaska's shifts in economy from canned salmon and gold making up 90% of value of products produced by the economy at the time WWII hit. During WWII, the economy shifted from natural resources to federal spending due to Alaska's strategic location. The focus on military spending carried Alaska through approximately two decades. Now the focus on military and on natural resources have come together to create a natural resource/international Alaska. There have been political shifts as well, from a limited self-government to statehood. With this there have been changes in orientation of objectives of development. As a state, development is not focused on purely economic aspects. Alaska has to be seen as a place to live rather than just a place to make one's fortune before departing. Immense social changes have occurred as well. The population coming in now is more stable and permanent in nature and less transitory than in the past. There has also been the emergence of the Native political movement, spearheaded by land claims. He points out parallels between the Native political movement and Alaska's statehood movement.

Dr. Rogers focuses on the future, using slides and referencing charts included in the booklets the audience has. Dr. Rogers examines first the value of natural resource products starting from 1960, through 1970 and looking to the future. Next he examines the foreign trade component in Alaska's economy. Foreign trade used to be, almost exclusively, goods being transported through Alaska to Canada and vice versa, but after WWII, Alaska's strategic location in terms of markets became known and exploited. Japanese investors in particular were quick to take advantage of this. Exports have risen greatly; Dr. Rogers gives figures. The foreign trade factor is one of the dynamic forces in current Alaskan development. It was not a factor before the 1950s but will be increasingly important in the future.

Dr. Rogers shows a third chart, saying that it is an attempt to translate the economic forecast into population growth. The magnitude of expansion of population is anticipated to be somewhat less than the rate of increase in the value of products because of the highly industrialized and automated nature of the expected development. Nevertheless, the development will result in a substantial increase in Alaska's population. Dr. Rogers gives figures of past population and expected growth. The next slide looks at the expected increase in labor force in Alaska. The final figures presented are an attempt to analyze personal income the development will generate for resident Alaskans. The figures do not include income that will go to outside investors.

Dr. Rogers concludes that Alaskans will increase in number and increase in per capita wealth due to these developments. Alaska's future will be characterized by increased industrialization of the economy alongside a rapid increase in urbanization of Alaska's population. There will continue to be regional diversity within Alaska. The tape cuts out.