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**Role of Research at University of Alaska
n.d?**

Summary created by: Varpu Lotvonen

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Dave Hickok starts the recording by addressing the audience and saying that he's affiliated with the Fairbanks campus [of University of Alaska, later UA].

He starts again, and says that he's the director of Arctic Environmental Information and Data Center in Anchorage, which is affiliated with the Fairbanks campus rather than the Anchorage one. They have a panel of interesting people who are going to discuss the role of research in the University systems. There are a student of Marine sciences whom Hickok flew north of Barrow many years ago to study the Arctic ice pack, Grant Matheke. Then there are Regent Sam Kito who is an activist in Native affairs for many years, Dr. Juan [Gualterio] Roederer, a director of the Geophysical Institute, and Dr. Rudy Krejčí.

Hickok wants to give some terms of reference for further discussion. He wants to spend 5 minutes discussing each panel speaker to establish their position in the subject of research in the University, which would be followed by statements of 3-4 minutes, and then the discussion would be opened to audience participation.

2:47 One of the things that all of them know is that the quest for knowledge in Alaska, whether in human, natural resource, or environmental matters, is that they live in a dynamic situation. Research is often dictated by federal involvement and it often leads to decision processes in resource matters in Alaska.

In Alaska, research is big business, and probably quarter-billion dollars is invested in Alaska today. Of that, 40 million dollars are invested with the university. That 40 million dollars stems from 6-million dollar appropriation [?].

The questions at hand are: Who does research, what is research, is applied research real research, is basic research more of a function of a university, and should a university be socially more involved with the matters of "our times". Panel will try to address those questions.

4:46 The speaker invites Dr. Rudy Krejčí to start the panel. Krejčí thanks for the invitation to the seminar and says that he will talk about his disagreement with some trends at the University where he has worked for the past 16 years. He doesn't assume that all people will agree with him on the matters of University and research, so he is

going to try to define his understanding of the subject. His definition [?] will be both conceptual and cultural, and he will show the position from which he speaks.

They understand University as an institution of higher learning with a long history. The blueprint of all universities was Plato's Academy that was organized around 350 B. C. and closed after 900 years of existence. There hasn't been another university that lasted for such a long time and that was organized according to a program that was written down by the master.

After 300 years, the idea of University was re-introduced by a learned British monk, Alcuin [sp?], who came to the court of Charles the Great. After development of medieval universities of Bologna, Sorbonne, Cambridge and Oxford, they have developed 4 faculties within which the complete curriculum was comprised.

Whoever studied within one faculty, had to also be aware of the offerings of other faculties. More than introduction that emphasized science [unclear], moved into what was the faculty of philosophy that emphasized more and more science. This structure remained unchanged until 20th Century [?] with one exception.

7:33 New ideas of democracy were introduced in universities in United States in 19th Century, democratizing the elite institutes of higher learning. 20th Century finished the classic concept of University due to involvement with government.

Nazis, fascists and communist regimes came under pressure before WW-2 and after that. Democratic universities were more and more under control of the government.

At first it was for survival, and later for catching up within political and ideological strata. That way universities lost their self-governance and they became dependent on government spending, and they also were more under the whims of the government.

Krejčí continues that university research is activity that expresses the curiosity of man to know. Men try to formulate curiosity into questions that predetermine a range of answers. Topics are objects of the mind: whatever mind can perceive, conceive, or imagine. Research is connected with utilitarian pursuit and curiosity and striving for knowledge have produced the greatest achievements in sciences, philosophy, and arts.

10:03 All of the fields were connected with higher learning institutions and different activities [disciplines?] were emphasized according to different times. That type of research moved to 20th Century unchanged and that kind of research is renewed search. [The moderator gives Krejčí another minute.] The greatest creators of 20th Century are the products of that type of research.

Then there is research that relates to conquest of material world and that is loosely connected to governments. It also has filled an important function in the human society. The research is of recent origin and contributed to the survival during the WW-2.

Organized research topics change with times. Now governments decide which directions research will take, and spending determines research activities.

Krejčí holds the traditional view that the University shouldn't be diluted by the temporary whims of the government. They should stay away from any interference from the government and for that reason, university should return to its original goal of educating, not training, people. Next, the University should review its own mission in the society, continue with non-utilitarian research, and divorce itself from organized research that should be supervised directly by those who pay for it.

12:34 Hickok thanks Krejčí and invites Regent Sam Kito to talk about his views on research in the university.

Sam thanks the organizers of the seminar. He thinks that they are talking about an on-going issue that will be a focus of controversy in the State of Alaska. He doesn't believe that his invitation was spurred by his past dealing with research in Alaska, but his views have been constant, and he thanks for the opportunity to present his views on research.

Kito says he wasn't sure that they would discuss the role of university in competition with private industry, but noticed that the topic was mentioned in a paper.

He has no arguments with the success of research in modern or ancient civilization, or with research having the ability to provide and assist quality education within university system. He does have a problem, however, when research is allowed to live in its own environment and when it, by its own inertia, finds itself growing without direction or only with the direction of the professionals who are monitoring themselves.

15:32 Research is an integral part of Fairbanks Campus and to limit the growth of research with some sensible planning on where one is going is [unclear]. The success of research during Sam's time in the Board of Regents for the past 3 years, has been one when they have submitted 290 proposals last year. They have also received \$36 million dollars or \$29 million dollars, and have been the most successful university in regards to the number of grants and proposals that were funded.

Basic premise on what value research has for the education system should deal with the conclusion of [the question of] how beneficial research has been to the university system. That doesn't happen. Research is evaluated by their own appointed advisors and the board of regents or the administration don't have anything to do with it. They should

have other direction than research itself saying where it's going.

17:48 A report a couple of years ago talked about 7 million dollars of [unclear] participation and dollars that were received. Kito objected, in tight money situation, about prioritizing where one was going to spend. He advocated a reduction to zero, or at least a reduction in state participation into research, so that they could utilize those monies into instruction. That position is consistent with [Sam is being told he only has a minute]. He says that when one tries to analyze what the system is doing, one should understand that when one puts money into a system with a limited income of hard dollars.

In the past, research has been able to convince the university that the hard dollars weren't state dollars but research federal dollars when in fact, the hard dollars are the state dollars. When one integrates research into academic instruction of a university, funding of programs that were started in research is reduced and [there is a] want to continue those with state dollars. When that happens, that's away from instruction.

Kito advocates a budget where research funds are frozen in a tight-money situation, as well as administration. Any increase in funding should go to instruction, which should be the priority in allocating funds.

21:01 Hickok [?] says that Sam isn't in the minority, and introduces Grant Matheke with his observations.

He argues that research in the university is absolutely vital in order to maintain a high standard of learning. Money that is spent on research isn't wasted because there are spin-offs that benefit the students. They need a strong research commitment if the university is going to educate people to work independently in basic and applied sciences.

The graduate students' primary reasons for being there is to do research. In order to educate people to address the technological problems in the society or industry, or to address intellectual questions of basic research, it isn't enough that the university merely [unclear] knowledge but they also must be able to educate students to create new knowledge. Students must be able to carry on their own research in proper climate which includes guidance from students' major professor, committee, and research faculty who have the breadth of experience with which to aid the student.

23:03 Matheke advocates learning by doing under the guidance of those who know how. He also thinks that educated research faculty and adequate equipment and facilities are necessary for attracting the best graduate students to the university. That ensures that transfer of knowledge isn't unidirectional, from a professor to a student, but that it's a multidirectional process. That might be the most rewarding part of graduate student's

experience and the faculty's as well. Matheke also believes that it increases the quality of education and research at all levels.

In undergraduate level, the quality is maintained by research faculty. Teachers who are involved in the creative process of their respective fields bring an added dimension to the classroom: They are up to date with their fields, but they also give students a feeling on how the creative process operates in addition to feeding the students with facts and theory.

25:10 As a conclusion, Matheke thinks that there's a role of wide range of faculty skills and interest in the university community. There might be a researcher or an artist who only teaches graduate students, or a teacher whose primary concern is to learn to better teach his or her students. The diversity leads to cross-fertilization that improves the university experience for everyone. [Applause.]

Hickok invites Juan Roederer to speak.

Juan starts by saying that Grant [Matheke] showed eloquently why research is important for the university and continues by explaining how it's not enough for an institute of higher learning that students merely acquire knowledge, but they must also learn to generate it. Academic environment at the university is essential for the advancement of research and technological development of the country. At universities, human resources are available for solving problems that private sector won't fund and academic freedom exists for individuals to chart their own work and alter the course as circumstances demand. There may be breakthroughs in knowledge when, at universities, a researcher is relieved from short-term public accountability.

28:06 Teaching is to simplify terms and formulate clear answers, which is essential for doing better and more original research. In USA, research is mostly funded by external sources, and Juan asks if externally funded research will corrupt the academic functions of the university, and if externally funded research is necessary. He argues that European universities, Latin-American universities, and even Soviet universities have the funds to pay for research, but US universities don't.

If every member of the faculty at the Geophysical Institute would lose their grants and contracts, they would instantaneously run into \$800,000 dollar deficit. Research is expensive. Juan continues that Krejčí is fortunate since he only needs a library to run his \$25 dollars/hour supercomputer [laughter], but Juan needs \$1,000 dollars per hour to run his plasma calculator.

30:04 Juan argues that basic research has its place and that has never been questioned before now. Not having basic research would be like having a music department with no

performing musicians in the faculty.

Applied research is the only bridge to public understanding of their research activity. Land-grant universities, like the UA, are a basic service to the citizens of the state. They produce talent with scientists and engineers that feeds into industry. They also produce research results that feed into technology in government and industry. Juan doesn't think that universities produce applied research in competition, but rather as a complement to the private sector.

There are universities in Lower-48 that run businesses as a part of their instructional program. Cornell runs a dairy and they offer research consulting services, University of California, Livermore carries on weapons development. If there was competition that would result in a private firm losing to a university, then Juan thinks that blame should be on the loser.

He believes that research and teaching should be meshed to have a good university that contributes to science, technology, and to the society as a whole. [Applause.]

32:54 Hickok says that one of the things that has concerned him for over a decade in Alaska has been the bridge to the society around the University. He wonders how the science gets communicated to the people who need to use it. He gives a case that's in the court at the moment: There's someone who has been subpoenaed by Exxon, Greenpeace, and Natives of the North Slope, all for the same information. They say that they are relying on UA's science on gravel islands relative to environmental damage on the arctic. University has a responsibility to bring and synthesize research information and make it available for societal conflicts.

Hickok and others have worked over a decade to pass legislation to establish a council of science and technology within the state. They finally got a bill and Governor Hammond has appointed the council. Dr. Neal Davis and the speaker are the representatives for the university.

34:56 They are concerned with privatization of state dollars for research. That is a double-edged sword for the university and for state agencies. Another thing is that Don Rosenberg brought up to Hickok that there is the problem of continuity of research: If they tag salmon today with funding from A, B, and Z, who is going to fund continuing study after 5 years when the salmon return.

Then there is the question about organization of research. They have had many systems of research in the US, like the classic model where research was associated with departments, and it was a function of furtherance of a professor's or a department's teaching activity. The forefront of their knowledge was directly available to their

students.

They have had the institute experience in Alaska where there's a functional organization by discipline. They also have in 11 states research organizations by general research foundation or a corporation, wherein there's an amalgamation under a business entity.

37:21 The manner in which research is delivered is also a function for discussion if the panel will discuss it. He tells that he'll accept rebuts in random order. He asks if anybody would like to be the first rebutter.

Juan Roederer says that he doesn't want to rebut but just to make a few comments. He says that listening to the first two speakers, he thinks that there are two fundamental issues of understanding. One is the definition of higher education. He thinks that the university isn't a collection of classrooms with teachers and they mustn't narrow the university down to instruction. The other issue is the accountability of the researcher to the university, state, and the federal government.

Research is unpredictable. They can't promise results or measure their success. On short-term basis, they aren't accountable, but looking back for hundreds of years, it can be seen that "our society" is based on research results.

40:24 Hickok asks follow-up comments. Sam Kito says that one of the things that happen when academics talk too much amongst themselves is that they build a wall around them. When someone develops a dialogue, they misconceive what is being said. At no time in his presentation did he say to do away with research. His question was how much participation one puts into research with the amount of dollar one has to spend. He would choose instruction over research, but he didn't say to do away with research.

They know that research institutes are very important in the State of Alaska as they relate to the Arctic environment. Sam asks if they should put money into total research that is based on their expertise in Arctic environment when they are short of money and do not spend the money on students. That's where animosity builds toward the members of the board of regents who share Sam's views. People had misconceived that Sam wants to do away with research but that's not his intention. His intention is to prioritize it.

43:04 Sam says that he is helping research by prioritizing and making a determination how that balance [between teaching and research] comes about. If Sam was asked to make a choice between "academics and research," he couldn't because they need research but they have to balance things since there isn't going to be more money for education in the State of Alaska. There is going to be an additional shortfall in revenues from the North Slope next year.

They have another determination coming, and Sam will prioritize the incoming dollars to maintain what they currently have.

45:46 A man's voice asks Sam if his argument is with research or administration. He says that his argument is that the administration and the board haven't controlled where research has been going in the past. They have just put money in it yearly, and Sam thinks they should hold off on that and get some dialogue between research institutes and the administration to collectively set up some goals so that they can make some determinations about where research is taking them.

A man's voice [Hickok] says that the question of prioritization of research is of state-wide importance, and asks if Sam would equate that with privatization of academic courses, for example, Native Studies.

Sam says that they are moving into another question that is about academic program development where campuses are saying that those should be independent of prioritization on state-wide basis. That's obviously not going to happen because the budget revisions are going to affect programs.

47:19 Hickok says that in the university sector, on many areas of science and education, there needs to be a commitment over the years. Their involvement with marine affairs may come [to fruition] when the government asks them if they have a commitment to a national sea grant program in the same way they have had to a land-grant program.

Sam says that if one can have a commitment but if there is no money, it's no use. Their problem is that they haven't identified what they would do "in those kinds of cases." They are doing that academically by having an academic development plan that is something better than the last one that didn't come up with priorities that would determine what is to be done if more dollars come in and how to retract the university when there are less dollars to spend. They have to make determinations based on present economic situation.

49:37 Rudy Krejčí says that he shares Sam's concern about finite resources and necessity of priorities, and notes that it's the board of regents that hasn't set the priorities. They need priorities based on what a university should do and not provide everything for everybody because they can't afford it.

He also agrees with the concept of research that Juan Roederer brought up and says that there were never statements about what was accomplished with the money that was granted for the 290 proposals. They have to start quantifying "those things."

Rudy continues that there's cynicism about the nature of the university. He never forgets that the last full-time president said to him that the only thing that holds the university together is the system of the sewer pipes. [Laughter.] His financial adviser said that that wasn't the case because the system was held together by paycheck, but at the time, not even those worked. Those days they had even more money than they have now.

Rudy wants to urge rethinking of the concept of the university and what they can do. He would emphasize on research that will [unclear] and that would be the kind to win the Nobel Prize.

52:09 Hickok asks for a last word from Grant. He says that lots of research requires funding. His ploy is that they should all tighten their belts because of the cut-backs they are facing, and it shouldn't only be on the research faculty. They need to maintain healthy research effort because if they don't, they really need to re-define the university and call it a college.

Hickok says they can have questions now. A man's voice says that there is a tendency to try to [unclear] the university and he is deeply concerned about it. There have been artificial barriers raised between research as Rudy defines it, and teaching and teaching faculty. The barriers don't really exist but are created in people's budgetary divisions.

Teaching and research form an integral part of education together. In regards to teaching and research budgets, on tight times, they should expand the one or the other. Hickok asks Regent Kito what is the difference between having state dollars go into academic colleges, in which salaries are paid for faculty members, and academic colleges with [unclear] time for research, in which the dollars really go into research and research dollars go into research institutes. He says that's it's an artificial division.

55:44 Sam Kito says that that was a statement and asks the speaker to make it into a question. The speaker asks how they are going to make the distinction between what money is going into research and what is going into teaching when both institute faculties and academic college faculties are involved in both.

Sam says that they need money for research and they need to have people who are writing grants for doing research to be on salary because they don't want to lose them. They have to reduce their spending and that is a value judgment. Sam would reduce money going into research because even though they may have the situation in which they give money to instructional area, they know that the majority of it will be going toward students. They make decisions based on what they know in a democratic system.

57:58 Hickok gives the turn to Carl who says he wants to comment a point that neither Grant nor Juan picked up, and that is integrated aspect of the university [unclear]. He

says that it's like choosing between the right foot and the left foot. He's been there for 18 years and taught undergraduates and graduates every year and he has been primarily funded by research funds. He has served as the chairman of the geology department and that has been partially funded by USGS among others. The students he has coached through their master's and PhDs wouldn't have made it through without external research funds.

If they are cutting research funds, they are also cutting academic programs and the two aspects are so enmeshed that it's not reasonable to talk about them separately. [Unclear.] Carl mentions the outstanding music department that is doing outstanding research in way of performances. The performances attract people in. Same goes with other research.

60:13 Another man responds that one year ago, there were 56 other universities doing research and business in Alaska, and now there are 94. They are doing as much monetary research as the total university of Alaska. People can ask themselves why.

Bob [Unclear] says that Dr. Roederer oversimplified the question of relations with private industry and the university. Sometimes it's black and white when there is nobody in private sector doing the kind of research, but most situations are gray. Bob doesn't think the problem can be dealt with by blaming the loser since private companies can't monetarily compete with the University that gains tax dollars for its functions -- partially from private companies. There are also requirements that are placed on private companies that the federal government doesn't follow and that add to the difficulty of competing with university. Bob asks if Roederer thinks it's that simple when the questions come to "us" to solve.

62:45 Roederer [?] says that Mr. Cook's assumption that the University wins on dollar basis is erroneous. It's a provable fact. Mr. Cook says that he said that there are a number of times when "those entities," who are competing for a contract, base their decision on dollars.

Krejčí [?] comments that it was an oversimplification for him to say that the blame is on losers and that there will be gray areas. However, he thinks that if a university conducts applied research in a fashion in which it develops new frontiers of ideas, and passes on their pilot programs to governments or private industries, where they can become financially worthwhile enterprise. That's where the university should stop. But if a private company loses to a university in a fair bid, then he would still put the blame on the loser.

64:51 Mr. Cook [?] responds that it isn't that simple [unclear].

Bob says that while Rudy [Krejčí] was talking about classical university, Bob started wondering how Darwin financed his voyages on the Beagle and wants Rudy to comment on how the classical university can support it, and if they would get into annual fights over budgetary increments. Rudy says that there were certainly sponsors for Galileo, Copernicus, and others. It's nothing like people have nowadays when research is very expensive enterprise.

Hickok says that they'll have one or two more questions and they are going to stop then.

Bill [Unclear] asks for a student opinion. Then he addresses Sam Kito and asks if cutting from research function and funneling the money into instruction, would take away the place where students go academically. He wonders what would happen to the university if research is cut and there is no place to go for academic students who seek higher learning.

67:59 Kito says that he is not doing away with research but wants to merely limit the funds going into research and limit the growth. At the same time, they reduce spending on other portions of budget. He would merely prioritize instruction over research, not quit the function.

Hickok gives turn to another person who says that he'll address the possible basis for determining priorities. There are three functions at the university: research, instruction, and public service. He thinks that public service should provide some insight "for us" as to what research they should be into. Getting involved with Alaskan public should inform their research. Also, instruction should be informed by instruction through research. His concern is that UA allocates 5% of a faculty members' time for public service but that isn't enough.

Hickok [?] thinks that the regents would agree with the speaker, and that all of the facets have to be put together. He thanks people for their participation in the conversation that may give a new era for the university.

[Applause]

[End of the recording.]