[Chairman: Mr. Oldring] [2 p.m.]

MR. CHAIRMAN: At this time I'd like to call to order the second day of meetings of this sitting of the Alberta Heritage Savings Trust Fund committee. Today we have appearing before us representatives from the Alberta Heritage Foundation for Medical Research. I'd like to welcome and introduce to the committee Mr. Eric Geddes, chairman of the board, and Dr. Lionel McLeod, president of the foundation. Certainly they are no strangers to the board, but for your information, Mr. Geddes and Dr. McLeod, there are nine new members on this committee and six members you will recall from previous meetings.

At this time I might point out that the Alberta Heritage Foundation for Medical Research Act initially received second reading from then Premier Peter Lougheed on November 9, 1979. The initial intent of the Act was to have the operations of the foundation reviewed by this committee every three years, but I understand that their first triennial report, covering the period 1980 to 1983, was given in 1984 and was such a hit with the committee that they extended an invitation to have them appear again the following year and thus the invitation to appear a third time in a row.

Also, under the Act there was a provision to have an International Board of Review consisting of not less than six members. They would be appointed to review the operations of the foundation and provide an assessment to this committee. I am assuming we will be setting a date for that sometime in the near future.

I also note that in the meetings last time an invitation was extended to the board to tour the Research Council. We have given that some discussion, and hopefully we're going to be able to make those arrangements sometime in the near future.

On that note I'll turn the meeting over to Mr. Geddes and Dr. McLeod for some opening remarks, and we can go on to questions from there.

MR. GEDDES: Thank you very much, Mr. Chairman.

MR. HYLAND: Do you guys want to move up? You seem so damn far away.

MR. GEDDES: Whatever is convenient for the committee. Would you like us to move up?

MR. R. MOORE: We've reserved two seats for you right up here.

MR. GOGO: Chairman, I think you should probably explain to Mr. Geddes and Dr. McLeod the reason we're meeting here and not somewhere else.

MR. CHAIRMAN: I'm not sure if I had a chance to cover that with you or not. I will point out at this time that our Legislative Assembly is being renovated and is under repair at the moment, and that has necessitated the change to this meeting room.

MR. GEDDES: Good afternoon, ladies and gentlemen. We appreciate the opportunity to meet with the committee again this year at this time, particularly since there are a number of new members on the committee and it is meeting under a new chairman. As you've said, I will make a few introductory remarks following which Dr. McLeod will add his remarks. As in the past we will of course be available for questions from members of the committee.

As you also said in your opening remarks, the Alberta Heritage Foundation for Medical Research has now completed six years of operation. I believe you have all received a copy of the 1986 annual report. As you stated, our legislation also requires that the operations of the foundation be reviewed after six years by the International Board of Review, which shall provide a report commenting on the impact and effectiveness of the present program of grants and awards in achieving the main objectives of the foundation, recommending modification of the present program of grants and awards if required, and recommending consideration of any new programs of grants and awards to achieve the main objectives of the foundation in the most efficient way. I'm happy to tell you that the work of the International Board of Review has been completed somewhat earlier than we had planned, but we're very pleased that they have completed their work on such a timely basis. We expect to receive their report sometime during the month of November.

We had given some consideration to deferring publication of our 1986 annual report by perhaps

two or three months. In this way we might have incorporated the sixth annual report with the second triennial report, including the report of the International Board of Review. Upon reflection, however, the trustees concluded that it was important to publish the sixth annual report on its own and on a timely basis, partly because we would be meeting with this committee just before the triennial report would be ready and to delay publication of the sixth annual report would have resulted in a delay of perhaps a further year before our next appearance before this committee. So what you will see next from the foundation will be the second triennial report incorporating the report of the International Board of Review.

The International Board of Review met four times. The last meeting was on September 29, 1986. The committee had an opportunity to view the medical facilities in both Calgary and Edmonton and to have in-depth discussions with medical scientists in both cities. When they met with us on September 29, they remained in Alberta for the final work on their report. I'm confident that we will receive that report sometime in the month of November.

Mr. Chairman, your committee will no doubt be interested to learn the names of the members of the International Board of Review, a truly distinguished group of medical scientists. The chairman is Dr. J. C. Laidlaw, formerly dean of the Faculty of Health Sciences, McMaster University, and scientific adviser to the president of the Medical Research Council. He is currently executive director, medical affairs, of the Canadian Cancer Society in Toronto. The six other members are Dr. Andre Archambault, formerly vice-president, academic affairs, University of Montreal, and currently professor, Health and Pharmacy Administration, University of Montreal; Dr. Robert Berliner, formerly dean of the Yale Medical School and currently director of the PEW program, Yale University School of Medicine, New Haven, Connecticut; Dr. Maxwell Cowan, formerly vice-president of the Salk Institute for Biological Studies and currently provost, Washington University, St. Louis, Missouri; Professor H. J. Evans, director, MRC Clinical and Population, Cytogenetics Unit, University of Edinburgh; Dr. Edwin Krebs, senior investigator, the Howard Hughes Medical Institute, University of Washington Medical School, Seattle, Washington; and Dr. Robert B. Salter, professor and head of orthopedic surgery at the Hospital for Sick Children in Toronto.

While we do not have the final report yet, from the concluding discussions we had with the members of the board, we have reason to believe that the report will be supportive of the foundation's activities over the past six years. In particular we believe valuable insight will be provided to members of this committee in respect of one issue which has been the subject of concern on the part of some of your members. That issue is the granting of institutional funding for the construction and equipping of medical research buildings in Edmonton and Calgary. Incidentally, we are now projecting the final cost of those buildings at $54,831,500.

We believe the report of the International Board of Review will touch upon the development of research proposals for major multidisciplinary medical research groups at both universities. In recent years our foundation, and in particular our president, has continued to press for the development of such new groups, based upon the best advice made available to us by our advisers. For several years it has been quite clear that the development of these initiatives was basic to the challenge of developing a climate of research in Alberta into which could be recruited outstanding new investigators and enabling those currently in Alberta to remain at the cutting edge of their field.

At the same time, it became very clear to us that unless new medical research space became available, the foundation's granting programs could not be made effective and we would be in danger of not meeting the challenge provided by the Legislature when the foundation was established. Dr. McLeod will provide you with further details about the development of these new medical research groups and the critical importance they have in the context of modern medical research. Taken together with the comments contained in the International Board of Review, I am sure this added evidence will reassure committee members about the correctness of the foundation's strategic decision to fund new medical research space.

Let me turn now to the comments concerning expenditures. Expenditures under the foundation's program of grants have increased in each of the six years. In the most recent year, the report which you have in front of you,

it will be seen that expenditures totalled $43.9 million and that cumulative expenditures since the start of the foundation amount to $143.8 million. The infusion in the short period of six years of such large amounts into the academic bloodstream of our Alberta universities, in particular the medical schools and health sciences faculties, has probably been the most important single factor contributing to the dramatic increase in both the amount and quality of medical research in our province. The original endowment fund of $300 million, which was provided by the Legislature six years ago, has grown by the reinvestment of unexpended income in excess of annual expenditures. As of March 31, 1986, the endowment fund stood at $443 million.

As reported at the time of our 1985 appearance before this committee, it will be necessary to have the endowment fund supplemented by additional funds, which we currently estimate at $150 million -- that is to say, the amount of additional supplementation required is still estimated by us to be $150 million — in order that we can continue to fund medical research in Alberta in a way that will build on the excellent foundations now being established. The formation of new medical groups, which I referred to earlier, will require the continued recruitment of young medical researchers. There will be a continued need to fund applications for new, state-of-the-art medical equipment to ensure that our researchers continue to be at the leading edge of new developments in science.

Turning now to the endowment fund, which, as you may know, is not reported in the annual report of this foundation, endowment fund earnings for the year ended March 31, 1986, amounted to $52.1 million. Total expenditures of the foundation amounted to $45.3 million. Our expenditures, therefore, amounted to 87 percent of the current year's endowment fund income. In the previous year, ended March 31, 1985, the total expenditures by the foundation of $34 million represented only 68 percent of endowment fund earnings for that year. It can be seen, therefore, that there has been a significant increase in expenditures expressed as a function of endowment fund earnings. We have moved from 68 percent of endowment fund earnings in 1985 to 87 percent.

Moreover, in the current year — that is, the year ending March 31, 1987, the foundation's seventh year of operations -- expenditures, including an estimated $19.1 million allocated to the building program, are projected to increase to $61.7 million while income is projected to decline to $47.8 million, resulting in a shortfall of $13.9 million. Such a shortfall can easily be accommodated out of the accumulated earnings of $143 million over and above the original endowment of $300 million. What I reported earlier was that the book value of the endowment fund at March 31, 1986, amounted to $443 million. The original endowment fund was $300 million. Therefore, the difference of $143 million represents the accumulation of earnings in excess of expenditures over the six-year period.

In the next three years, however, as the new medical groups are rounded out and put in place at the two major universities in the province and as the buildings are completed and equipped, annual expenditures will exceed income earned. There must obviously be a limit on how much of the accumulated income from prior years can be used for current purposes. As you will appreciate, prudent fiscal management dictates that only a portion of annual income from endowment funds can be employed for current purposes. Supplementation of the endowment fund in an amount now estimated at $150 million will be required to be in place by 1990. To permit us to employ only an appropriate amount of annual income for current expenditures, we must continue to place in reserve some part of our annual income in order to continue on the pathway for the development of modern medical research in Alberta.

Now just a brief word about the technology transfer granting program. I won't repeat the information contained in the annual report on pages 15 and 16 which describes the individual applications that were funded under our technology transfer program. Page 18 of our annual report contains a description of the purposes for which phase 1 and phase 2 funding is made available. I would like to say, however, that there have now been 13 applications funded under the foundation's technology transfer program. Of these, the first completed project has now been submitted to the foundation and is currently being reviewed for funding by outside venture capital sources. We believe the initiatives undertaken about two years ago have been highly successful, and we are confident

that we will see some successful commercial enterprises emerge as a result of the technology transfer program.

Mr. Chairman, I think I should pause at this point and invite my colleague and president of the foundation, Dr. McLeod, to make his remarks.

DR. McLEOD: Thank you, Mr. Chairman. I am quite pleased to have this opportunity to report to you again and to follow up those points I previously raised with you. I hope much of what I present will be highlights from the sixth annual report. I do appreciate Mr. Geddes' comments that it is a brief report, for the reasons he offered, but I do hope it sort of brings things up to date. The triennial report and the International Board of Review report will of course be the more extensive document and will provide you with a better overall view.

With respect to the last year, I think the important aspects function around the growth of our major programs. We now have 11 heritage medical scientists. Those are the people who are at the senior levels, people who have been recruited from productive settings. They are there to provide some leadership and ensure the quality of the undertakings of the more junior people we recruit. We now have 86 scholars. If you combine the two, it's almost the equivalent of a modest-sized medical school at this point. Seventy-five of those 86 people are found within the medical faculties, but the remainder are scattered in other faculties. There are some in the faculties of science, home economics, and pharmacy, and in fact one in the faculty of agriculture, because they happen to have an area of research in a certain food and its importance to human beings that we thought was important.

Perhaps more important is that we have the new clinical investigator program. One of the major difficulties in medical research today is having able physicians and surgeons who are researchers in their own right who can walk between the two extremes, between basic scientists as fundamental people and over to the patient care areas. They are also the people who are very critical of the teaching programs at medical schools, and they've been in extremely short supply in Canada and are in fact dwindling in the United States. We have a program, and to our great satisfaction it's attracting the interest of young people. The key is to attract young physicians and surgeons while they are in their graduate training, get them away to very secure, rigorous training, and bring them back into a kind of protected habitat where they can be assisted by more established faculty members while they continue to perform at the faculty level. These people are doing well, and we are looking to that program with a great deal of interest for the future. As I said, we now have six people. One or two of them are doing some of the more interesting work that we have going on.

From discussions last year it seemed important that I try to emphasize the mechanisms by which we attract these individuals. They're largely attracted through the universities or through the affiliated teaching hospitals, such as the Alberta Cancer Board, the Foothills hospital, the University of Alberta hospital, and others. Indeed, the provincial children's hospital in Calgary has a very active recruiting team. We receive the applications, and then they're very carefully reviewed by two levels of review. One is by the external expert within the discipline of the individual so that we get the best information we can from wherever we can find it. You'll see within the annual report an acknowledgment of the many people who have helped us in that way. The recommendations from that external peer system are then reviewed by a multidisciplinary group of individuals from both inside and outside the province who are well established in their disciplines but come from a whole series of fields. That way, we think we get not only a very narrow, focussed viewpoint on the quality of the work of the prospective candidate but also the work from a greater breadth. Those people are then offered a five-year renewable position, and we fund them through the universities or, as I said, one of the affiliated institutions.

During the course of the past year, being 1986, it came time to review the very first group of individuals that were appointed, the 1981 group. There were 25 members. Of that group, two scientists had chosen other courses, other career pathways, 18 were renewed for a further period of five years, and five were not recommended for renewal and were awarded a terminal year. Again, the mechanism of that review was comparable to that chosen for the intake of new individuals. In other words, it was done by an external peer and a

multidisciplinary group. Their decision was then reviewed by our Scientific Advisory Council, who made the final recommendations to the trustees.

The second most important program — it could be the most important program, at least from my own biased perspective — is the training program for young people. We have approximately 350 to 400 young people in training at any one time in a very wide range of disciplines and in very many locations. Most of our graduate science students are being trained in units within the province of Alberta. Many of our clinically qualified people, those that I mentioned as eligible for support as clinical investigators, are being trained in other parts of North America and indeed in the United Kingdom. According to our visitors and members of the International Board of Review, our training environment has shown a remarkable improvement, probably the result of the mix of individuals who are now available to supervise and help young people in their training.

Mr. Geddes commented on the International Board of Review. I will only make the additional comment that the members of that review were nominated from across the world by our Scientific Advisory Council. Their nominations were then approved by the trustees. They are indeed a very distinguished but also very experienced group of individuals. All of them have had major responsibilities in major institutions in North America and the United Kingdom but also with agencies something like our own, granting agencies and agencies attempting to create improvement in the science of North America.

From the progress and impact I could make of the last year, I think I could comment on three different areas. In the first place, research. In the words of one of our International Board of Review members, our two centres in Alberta are now clearly well recognized on the world map. These are not centres somewhere in some hinterland; they are now well recognized across the world. There is no doubt about that in the minds of our distinguished visitors. They have now become centres which not only Alberta but Canada can look to for further development. It is interesting, too, that in a recent editorial published in the Canadian Medical Association Journal, one of our most distinguished Canadian scientists recognized that Alberta is now one of a few places in Canada which our country could count on for major development.

The quality of the research produced. I can only document this by commenting that the publications of our scientists are now in the very major journals in the world. They attract very significant attention. Our scientists are now invited speakers at most of the major symposia and plenary sessions, especially in North America.

I think one of the important aspects has been the growth of collaborative work that goes on between scientists in Alberta and scientists elsewhere. Some of you have expressed concern in the past about unnecessary duplication of scientific activity. One of the ways one can help ensure this does not happen is by the fact that the collaborative work goes from scientists in Alberta to the scientific community outside Alberta. It would be difficult to envision unwarranted duplication in that event.

Finally, on the matter of research I would like to note that the scientists we are attracting to Alberta are attracting outside moneys in increasing quantities for their research. It's early yet in that part of our game plan, but we have evidence now that they are running a very high level of success in that regard.

Some of you might wish to note on page 9 of our annual report a comment on the work of Dr. Gary Blasdel. This work has been exceedingly well recognized across North America; it's a hit. Dr. Blasdel has had an important breakthrough in research whereby he can actually pattern the activity of the brain as the brain receives impulses from the outside world, how it organizes and works with them. Dr. Blasdel's work in this regard has been very well recognized. He is a young scientist who has had an opportunity in Alberta that he would not have had elsewhere.

If I leave research and comment upon the impact on education, we've taken an active role in attempting to encourage an interest in science in Alberta's young people. We have a very large summer student research program, large in the Canadian context. Last summer we funded 176 students in laboratories. Those of you from other communities in Alberta might have heard of our interest in the high school science fairs. Each of the six provincial science fairs has an award funded by the foundation.

Perhaps more important, those winners are brought to either Edmonton or Calgary from the high school and junior high school levels and are offered exposure within a laboratory for a day. It's probably one of the more refreshing parts of one's responsibilities to meet with these kids and watch them through a lunch and across their laboratory experience.

In patient care, an area of great importance, the deans of the medical schools in Alberta and the International Board of Review have recognized three different ways in which we have had significant impact on health care in the province. The first is an area in which there were only limited resources in terms of manpower and expertise for patient care programs. In that context, we have recruited individuals who have entered the province and brought with them expertise and have had significant impact on patient care. Last year I referred to one of them. There are now programs in both communities that deal with disturbances of the electrical mechanism which causes the heart to beat. Those programs can now document that they have not only saved lives but made significant contributions to the quality of life.

We now have in the province an organized Alzheimer's clinic, an area which other physicians can use to attract expert opinion and assistance in the management of Alzheimer's. In the past year we have acquired very considerable expertise in the nutritional needs of newborns. In this day and age, with smaller and smaller babies being brought to quality life, their nutritional needs are serious problems, and there has been significant progress in relation to that. I could list others. There are four or five others which we feel we can now recognize as significant contributions.

The second area they noted are the areas of patient care which have benefitted directly from the research that's gone on; rather than just the individual offering expertise, the research is making a contribution. I could present some of those for you. We have acquired a very considerable increase in skill in the diagnosis of parasitic infections in the province in the past two years. We now have people working in the province who are as expert as anyone in Canada on the potential for preventing juvenile diabetes in young kids. Some of you may have read about the fact that it may be possible shortly to transplant the islet cells of the pancreas from one human being to another. If that proves successful at the University of Alberta and the Edmonton General hospital, it may well prove that one can blunt the need for insulin in those people acquiring diabetes. There's been a great deal done on the diagnosis of viral infections in the province in the last two years as a result of this backing.

Finally, I'd like to just comment on a third area, and that is the expertise that's offered by the nonclinical scientist, the basic scientist doing research. Those people make significant contributions to patient care. For instance, I think the in vitro fertilization and insemination program in Calgary would flounder were it not for the backup it has from people in the basic science areas. Diagnosis using nuclear magnetic resonance is now taking place at the University of Alberta using a device funded by the foundation. The expertise in bringing together that instrument and its management just simply wouldn't be possible at that level without the existence of those basic scientists within the province. I'd like to make clear the point that I believe the presence of these people is critical. Only by their presence does Alberta have an open door to the most recent advances, whether technological or pharmaceutical, in other parts of the world. Only through those people do we have quick access to that kind of development. I don't really think the heart transplant program would have been a navigable proposition were it not for the backup these other kinds of people afford in the management of patients in the long haul.

Mr. Geddes commented on the technology transfer program. We do look forward to that program with considerable optimism. We don't expect them all to be winners. We'd would like one in 10; I think that's not a bad percentage. If we have one we'd be delighted, and I agree with Mr. Geddes' assessment that we can see some really strong prospects.

Finally, let me comment on the importance of the multidisciplinary groups. From day one, and in fact from the origin of new medical schools in Canada, it became clear that one of the ways to get the best bang for the buck, for the research dollar, was to use groups of independently capable scientists working in a setting that encouraged collaboration amongst them. There were a host of advantages. First, each one became more familiar with

developments and advances in other areas such that they were able to apply them more quickly to their own fields for greater productivity. Secondly, you could put equipment — and it's now very expensive, very costly — at the disposal of a group of people like that and have it run at a much more efficient and effective level than you could by granting it to individual scientists. There is no doubt that new ideas are generated more quickly amongst that pool of individuals, and if research is anything, it is an accumulation of good ideas and their study. So those groups have been encouraged all along.

We can now see in some of the existing groups that we were able to bring together in the space that was available in the period from '82 to '84 — we can see the [inaudible] in the cardiovascular group in Calgary that I mentioned, all the way from people who work on cells to people who work on patients. So we have evidence at hand of their importance. I can only say that not only the advice from the outside world but also our own experience lends very strong support to the explanation offered by Mr. Geddes as to why we are where we are.

I guess I can only conclude by summarizing the enthusiasm which I sensed in our International Board of Review for the momentum we've achieved and the importance of maintaining that momentum, despite the times that we have at present. There is a momentum and an enthusiasm that just simply isn't matched right now anywhere else in North America, and I guess those external visitors are the best evidence I have of that.

Obviously, I'd be happy to try and answer any other questions.

MR. CHAIRMAN: Thank you very much, Mr. Geddes and Dr. McLeod. Maybe we can now move on to the question portion of our meeting this afternoon. I have four members wishing to ask questions at this time, and we'll begin with the Member for Lethbridge West, Mr. Gogo.

MR. GOGO: Thanks, Mr. Chairman. Who would have thought 10 years ago that we would see something like this today? Without the foresight of Mr. Lougheed, the money from the nonrenewable resource revenue, and the creation of the heritage fund, I question how a province with 10 percent of Canada's people could be the leader in medical research, not only nationally but in many ways internationally. Obviously, I think we, including your associates, Mr. Geddes, are all very grateful for those who had the foresight to do this.

I found it somewhat exciting when you talked about the technology transfer program, because I see great potential, and I would hope there would be questions. At the moment, however, because of the system the chairman has decreed, we're limited to one question at a time. I want to talk and ask Dr. McLeod about something I feel very strongly about. That's the question of pain control, which is on page 13 of your report. I recall mentioning previously that I had some very strong feelings about the purpose of the foundation, and I'll quote from your overview, Mr. Geddes, that the activities of the foundation

> are directed toward the discovery of new knowledge . . .

and this is what's important to me:

> . . . the application of that new knowledge to improve health care of Albertans and all people.

I read that in some 17 books dealing with surgery, medicine, and cancer, only 54 pages out of a total of 22,000 gave any information at all on the question of pain. Life should be much better than simply survival. It's obviously survival in a state that a person can enjoy life. So I'd like to ask Dr. McLeod with regard to pain control. I'm referring now to page 13.

I'm very grateful, Dr. McLeod, that the foundation has seen fit to do some meaningful research in terms of the alleviation of pain in perhaps one of the most painful illnesses of all, cancer. I note, for example, that Dr. Bruera has developed an automatic system whereby patients can control their own pain through this pump dealing with the drug methylphenidate. I don't know what that is, but obviously it relieves pain. Dr. McLeod, could you advise, recognizing the literally hundreds of types of pain that people experience, is there any other research going on in a clinical way at the same time with regard to pain control; that is, where a physician dealing with a patient can implement pain relief properties to those patients that have come about as a result of the foundation's research on pain control?

DR. McLEOD: Mr. Gogo, there is a very active program in Calgary attempting to actually recruit individuals who could not only establish

a clinical centre which might be able to look at different kinds of pain but also attract and manage research programs of a much wider nature.

It's interesting. You're quite correct obviously in your concerns with pain. It's entirely appropriate. There isn't a large number of new approaches at the present time, not only in Alberta but anywhere in the world. People are casting about now looking for new methods. Calgary's idea is to try to bring together an area of expertise in an individual who could monitor that.

At the Cross Cancer in Edmonton, Dr. MacDonald, who is navigating this program with Dr. Bruera, is hoping to be able to extend and broaden this program substantially over the next year with the advent of some assurance that the operating funds we apply to the heritage cancer trust fund would be available. I think that should materialize.

MR. GOGO: A supplementary, Chairman. Dr. McLeod, in terms of communication, there are 19 medical schools in the country; some say three or four too many.

DR. McLEOD: But no Albertans.

MR. GOGO: If we're really successful with this, obviously we're going to go broke for other reasons. I'm sure you're aware of the health care costs. Assuming that the two in Alberta remain, in terms of communication, is information emanating from the foundation published in papers and available for all medical schools in Canada? Is that how the system works?

DR. McLEOD: Yes, sir. Not only that but Dr. Bruera, for instance, is encouraged to take his material and personally present it at major meetings which will be attended by representatives of every medical school in the country. Indeed, I can't vouch for Dr. Bruera, but I would be surprised if it hasn't also been presented in an American setting. It's very widespread.

MR. GOGO: That's one of the reasons for the visiting professor program.

DR. McLEOD: Correct, and also faculty travel [inaudible], conference support, and so on.

MR. GOGO: Thank you, Mr. Chairman.

MR. HYLAND: Mr. Chairman, to Dr. McLeod. My question is related to recommendation 18 that was passed here:

> That the Alberta Heritage Savings Trust Fund support by endowment the Alberta division of the Canadian Paraplegic Association for research in damage to the spinal cord.

Looking through the report, I note that there is some research into nerves and adjoining nerve cells, et cetera. Is there any research going on on spinal cords? I guess I should come clean and admit that I am a member of the Alberta Division of the Canadian Paraplegic Association, and that's why I have an interest in this. It's been a concern of some members of that board that there could be more research into regenerating people who are paraplegic and quadraplegic. I just wonder if you know of anything that's going on that would do this.

DR. McLEOD: It's very difficult to be absolutely certain of figures, because a scientist working in a neuroscience group, for instance, may also contribute to work in another area. If I were to shake down as best I can the distribution of the investment of the foundation, I would think that neuroscience if not the major area of investment must be close to it.

Contained within that large pool of people are individuals who are doing two kinds of work that bear directly upon potential, not the patients themselves but the potential. In Calgary the interest of Dr. Robert Lee, who is head of the clinical neurosciences group, is at the spinal cord level. He's interested in so-called lower motor neuron disease, which is a cord injury expression. He has at least three people that I'm aware of who are working on lower motor neuron disease, but they're working far enough into the basic side that it's difficult to know where their outcome will be in patient care at the present time. They are a very active group, and we have a number of investments in that group.

The other area is in Edmonton with Dr. Richard Stein in the Department of Physiology. Dr. Stein has a very active interest in robotics and their application to the individual's loss of limb or loss of use of limb. His work with one new scholar which we are

funding will hopefully bear directly upon the area of your concern. It will take a little more time to be certain, but I would think there are at least the two areas that would be of interest to members of your board.

MR. HYLAND: If the board or scientists got together, would the organization be willing to review on its merits the application put before it for medical research in that area?

DR. McLEOD: Yes. There are two ways of providing. One, if it fell within our programs. As you know, we try to stay out of the support of regular operating costs -- the costs of technicians, chemicals, supplies, and so on -- on the grounds that those funds are generally available from other sources. For instance, if they wish to recruit people who have expertise in that area, and they went by our scientific assessment, they would be funded just as quickly as any other.

MR. HYLAND: I forget if it was Mr. Geddes' comment or yours, Dr. McLeod. You said that some of the people coming in for research are bring in some dollars. As I remember, last year we were concerned about any change in funding with the federal research grants. I wonder if you could comment on how that's affected the program.

Secondly, have we got any income generated that goes back into the fund to help build it up; i.e., patent rights? I'm not sure that's the right term with medical things.

MR. GEDDES: Just to answer the second part of your question first, the arrangements we have in place provide for the repayment to the foundation of amounts advanced, either the entire amount or a multiple thereof. Our attitude as to the amount we will ask to be repaid relates to the arrangements the individual will have made with his or her own university if they are a university-based person. We have made grants to people who are not based at universities, I might add, so the program does not necessarily cover those persons who are based at universities. But where they are based at universities -- and that, we expect, would be the majority of applicants -- if they have made suitable institutional arrangements to return a share of the gain from their commercialization to the university, we would then require perhaps the refunding to the foundation of the amount of moneys advanced. We ourselves would never intend to take title to any intellectual property rights such as patents, nor would we intend to take a share of royalties. We believe that in most cases the universities can play an important role in protecting the public interest and ensuring that some part of the rewards from this commercialization flow back to the university. But we do believe that repayment of the amounts advanced to individual applicants will see the process regenerate as the money comes back into the system and is used to make further advances.

That was the second part of your question. The first part was . . .

MR. HYLAND: Federal funding on research grants.

DR. McLEOD: We have continued concern for the amounts of money available from federal sources or other competitive sources. To our pleasure, though, the individuals we've recruited to the province have so far been successful in their search for those outside funds. As they come off what we call our establishment period -- the first couple of years' operation that we provide them -- they must then find those outside funds. I guess 87 percent of them are gaining those outside funds, so they're doing very well. Of course, we think that is evidence that we've chosen the right people, because they can acquire the funding. So the moneys from those sources, that come in that fashion, are increasing every year.

MR. R. MOORE: Mr. Chairman, these gentlemen have given us an excellent overview. It's such a good review that it took a lot of our concerns away before we got to the questions. I don't know if that's by design or not, but it's an excellent overview.

DR. McLEOD: Preventive medicine.

MR. R. MOORE: I'm not too high on the research area, because I have no knowledge of it, but I have some concerns on the financial end of it. They're excellent programs, but there always comes a time when -- how much can the citizens of Alberta afford? It would be good if we could afford everything, but there is a point

we reach when it may be beyond our ability to afford.

You've been in operation for six years. When you're established, there's always an internal bureaucracy built in. What's happening in the area of administrative dollars and research dollars? Is competition developing there? What I'm concerned about is that over time you'll find that a larger percentage of dollars in an organization goes to administration and less to their goal. I want to make sure we're getting the maximum number of dollars into research and not seeing an administrative drain.

MR. GEDDES: Largely because of the size of our foundation, which is a very significant one by Canadian standards, a very large proportion of our expenditures go directly to the grant recipients, direct stipend support, directly to the universities for equipment purchases, and so forth. Last year that amounted to 97 percent. The year before it amounted to 97 percent. Hence, the remaining 3 percent is allocated to the cost of administration, the cost of administering the review system, which is a very extensive review situation, and the cost of our Scientific Advisory Council. All those elements of cost amount to a total of 3 percent. That's a remarkably low amount, but I must be frank with you: it's partly a function of size; this is a very large program.

I think you can gain some reassurance from the fact that there's been no erosion of that. The amounts in both years are exactly the same: 97 percent of the expenditures go directly to grant recipients; the remaining 3 percent includes not only administration but also the very significant costs of having applications reviewed, very often on an international basis. The 3 percent also encompasses the fairly significant costs of bringing our Scientific Advisory Council together. I hope that answers your question.

MR. R. MOORE: Very good. A supplementary. We talked about reviewing so that there is not duplication and there is co-ordination of the various research projects across Canada. Is that same co-ordination in effect within the province? The Alberta government has other research going on, for instance into the heart and into cancer. Is it co-ordinated there? Even within your own group, I notice that you have two projects with implications on the areas of fertility and contraception, one at the U of A and one at the U of C. Is there co-ordination between these to make sure we aren't going along similar paths? We could complement or maybe do it [inaudible].

DR. McLEOD: We do take specific steps to try and make sure that people in Edmonton know what's going on in Calgary and vice versa. Once a year we provide funds for a day in which the work of the scientific community of any scientist funded by the foundation, which, if you include equipment grant holders, student supervisors, and so forth, includes an enormous number of Alberta-based scientists -- they're all invited to present their work at one setting. One year it's held in Edmonton, and the next year it's held in Calgary. There's a lectureship given in honour of one of the distinguished Alberta scientists we lost a few years ago. But the important part is that we try to get all of those people presenting their work in that one setting. In that fashion, we try to minimize or make certain that people know what's going on.

The interesting thing, Mr. Moore, is that new research has often come from those meetings. A Calgary scientist will meet an Edmonton scientist. They'll both strike on an idea that neither has had before, and they'll take off and do some collaborative research, which I think is a good thing.

The other thing we try to do is that every committee we have has membership from both communities. So again, it's possible for every community to comment upon applications from the other centres. We are taking steps that we hope will minimize any of those kinds of difficulties. You've raised a good point, Mr. Moore.

MR. R. MOORE: I have a final supplementary, Mr. Chairman. When I heard that you project that you'll need $150 million in additional funds to supplement in the future -- I think you said your projection was 1990.

MR. GEDDES: Yes.

MR. R. MOORE: Just one question on that. Is this to maintain the level you're at, or is it what you project is a growth area you want to be at in 1990? Is it going to need this additional to maintain what you have, plus a growth factor,

or is it to maintain your present situation?

MR. GEDDES: There's a growth factor encompassed in there. You will remember that in connection with the buildings, I indicated that new medical research groups were being formed or rounded out in both Edmonton and Calgary. Those groups will be moving into the new buildings, and it will be necessary for them to recruit new people onto their teams, so there will be growth there. Accompanying that will be a need for other infrastructure requirements, such as vivaria, as well as other equipment needs that will arise in these new groups.

All of that is accommodated in our present planning, which has developed in conjunction with the two medical schools. It moves us toward what at the present time might be considered a steady state that we will project at about 200 clinical investigators, scholars, and scientists. That game plan is predicated on the full maturing of plans now in place at the two schools, but certainly not to simply maintain what we have in place now. We'll see considerable expansion and development.

Anything further, Dr. McLeod, on that?

DR. McLEOD: No. The idea is that the extra $150 million would take us well through the next decade and manage our needs to that level.

MR. GEDDES: As the $300 million did at the start of this decade, the augmented and supplemented amount will position us correctly in 1990 to move into that next 10-year period.

MR. NELSON: Mr. Chairman, first of all, I'd like to take this opportunity to thank Mr. Geddes and Dr. McLeod for the overview and certainly congratulate the foundation for the work that it appears to be doing on behalf of the citizens of Alberta. I say "appears" because, obviously, I'm not there on a day-to-day basis or even a monthly basis. It might afford me the opportunity now to suggest that the committee ought to make a visit to these new structures and other things that are going on out there, to visibly see how the people of Alberta's dollars are actually being expended, to maybe even get a more satisfying approach to this than we have now.

I am of course interested in dollars and cents, as usual. A question that was asked and answered a few moments ago twigged my mind from the question I wanted to ask, and I'd just like to start off with this one. It's with regard to the $150 million additional request that was certainly on the table last year. At the same time, there was a discussion relevant to additional funding being brought in by your scientists and other people you were bringing forward with you. I guess two questions relate. I won't say "two questions." It's one question, but it will possibly have a couple of answers forthcoming.

You indicated you weren't interested in attempting to obtain royalties or other moneys from the development through scientific research of various commodities, if I wish to use that word very loosely. I'm wondering why not. Considering the economic condition we find ourselves in, $150 million just doesn't grow on that old oil tree any longer. Why would it not be prudent to attempt to obtain funding from that area or even the National Research Council, for that matter, to assist in this development of your facilities?

MR. GEDDES: There are three things that arise out of that question. First of all, a royalty is paid to the owner of property, generally reflected in the ownership of the patent or similar asset. That would suggest that the foundation would have some ownership position to assert, which it does not. It does not assert an ownership position in the commercializable results which arise from the activities of an investigator. There are relationships which exist between a university-based investigator and his institution, and he must make peace with his own institution.

In some instances university-based researchers request the university to prosecute a patent on their behalf, in which case the university would take title to the intellectual property. They would be the rights holder; they would be entitled to the royalty share. If that were so and a large flow of income resulted, that funding would find its way back into the bloodstream of the university and hopefully would be directed back largely to the department from which the science originated and in the longer term would lighten requests being made of our foundation. We believe, therefore, that important financial advantages can arise. Both Alberta universities with medical schools have technology transfer officers in place, and they are quite attentive

to the possibility of gaining income in that way.

I think a point was made about funding from national . . .

MR. NELSON: The National Research Council.

MR. GEDDES. Yes. I'm afraid funding from those sources is drying up rapidly. There are some difficulties in believing that the requirements of funding basic medical research are going to be met. We continue to labour at a very low percentage of gross national product of this country in respect to the funding of basic medical research, and it's very doubtful that any additional funds could be seen to be made available for any purposes other than the funding of their basic programs. Indeed, in real terms there is evidence of those programs diminishing rather than increasing in size.

MR. NELSON: That leads me to another question, right off the topic I wanted to start with. Considering that the public purse is supporting and funding these activities being produced by scientists, doctors, et cetera — which I don't have a lot of difficulty with; someone has to do it -- and that ultimately there may be a profit motive for the individual in so doing, should not part of that profit motivation, if he or she is successful, be placed back into the efforts they've given at the expense of the public purse? In fact, once they've achieved their goal of the end result of that research, of course, they are set free or they could set themselves free with a nice large bank account and say: "Thank you very much, public of Alberta. You've done a good job for me, and because of the research I've done, I've helped you. But now I've got my pockets full of money, and away I can run."

MR. GEDDES: That's quite true. There's no evidence to suggest that that's ever happened in this province. I'd like to point out that our policies or programs could be changed on a monthly basis, because that's as often as we meet. It's a simple matter for us to change our policies by resolution if indeed there should be any abuse noted.

Let me just say this about people who work at universities, though. There are institutional arrangements between individual staff members and their university which permit outside activities to be undertaken. If a professor in an English department of an Alberta university were to write a best-seller and sell the movie rights and make a million dollars, why, the system allows for that. One might say that that individual would be in large measure supported by the Canadian tax system; nevertheless, our system does allow for that.

As I said earlier, it's a matter of the arrangements which an individual faculty member chooses to undertake in attempting to commercialize things of value. He can turn to the university system and allow the intellectual property rights to be capitalized, using the university resources. Indeed, it can be the result that the entire intellectual property rights remain with the university.

Perhaps the most dramatic example of technology transfer in the history of this province has been the work done by Dr. Raymond Lemieux at the University of Alberta, whose findings led to the successful establishment of Chembiomed, a company in which the government of Alberta has taken a very strong interest in recent years. The entire intellectual property rights that arose from Dr. Lemieux's work rest now in Chembiomed but have rested with the University of Alberta since inception because that particular gifted scientist chose to go that route. In that sense, any commercial gain that arises from that will flow back to the University of Alberta.

I would like to think that in the years ahead we're going to see an increasing number of commercial applications. I would hope a proportion of those would be as a result of work funded by this foundation. I emphasize that if there seems to be abuse creeping into the system, if the university's rights are not being adequately protected, if the benefits are not taken into account, or if we do not see that the requests made for funding are regulated in some way by the successful commercial results, then I would think some reconsideration might be in order.

MR. CHAIRMAN: A final supplementary.

MR. NELSON: I have no problem whatsoever with capitalism; in fact, I think it's the grandest thing there is. But I don't think the socialist state should be funding it. I think it should be . . .

MR. McEACHERN: Capital socialism or social

capitalism: which way will you have it?

MR. NELSON: You're the socialist, not me.

What you're actually saying then is that there are in fact safeguards in many of these programs to allow for the protection of the dollars paid into them from the public purse. In essence, if a development is made for a commercial purpose, there may be some opportunities for the education system as such to be a party to that commercial property by also having a return on that education or whatever investment that was made by the taxpayer.

MR. GEDDES: Indeed, that is quite correct. It's very difficult, I might say, to track the benefits which arise from granting and relate them to a specific discovery that might be made by a research scientist in the course of a long and productive career. That scientist will have been funded in Canada at whatever undergraduate university he or she attended. Their postgraduate training would have been supported by the taxpayers of Canada or, indeed, in many cases by the taxpayers of the United States or the U.K. or some other country. He may have been in receipt of moneys from the Medical Research Council of Canada, from the National Research Council, or the Canadian Cancer Society. He may have worked collaboratively with other scientists at other universities before coming to Alberta. So it is not a simple matter to assign the benefits or take the credit, if you like, for funding having been made available.

That will be increasingly so as we bring more senior scientists into the province. The body of work that they bring with them will represent the accumulation of their entire career in academia, so it is difficult to claim that some short period of years of funding taking place in this province equates to the entire commercial outcome that might result, which is more properly equated to the entire academic life of that investigator.

DR. McLEOD: I think it's important that we emphasize that the people we fund are contracted employees within public institutions in the province, whether they're the Alberta Cancer Board or the universities of Alberta or Calgary. So in fact a public institution really has the first call on whatever is the immediate disposition of Alberta interests.

MR. GEDDES: But you can be assured that we will continue to examine the evidence. That can be done on a month-by-month basis. I will repeat that the most powerful evidence we've seen as to how the system works can be found in the outcomes of Dr. Raymond Lemieux, who is by all national standards one of the most gifted and productive researchers ever produced in this province or, indeed, in Canada.

MR. McEACHERN: My question has to do with the original funding, and I guess it's just that I haven't really had a chance to dig into that carefully enough to get exactly the picture of what was going on. I understood that there was $300 million set aside . . .

MR. GEDDES: Yes.

MR. McEACHERN: . . . and that you were to use the interest on $150 million of that; that was to become the actual money that you could expend. The other $150 million was to stay there and collect interest for a number of years until it reached $300,000?

MR. GEDDES: No, sir. I'm not sure where those facts came from. Perhaps I could just explain it in the following fashion. There was an endowment fund of $300 million set up, the entire income from which was to be made available to carry out a balanced program of clinical research based in Alberta.

MR. McEACHERN: In other words, you could use the interest from all of the $300 million?

MR. GEDDES: Furthermore, unexpended income did not form part of the capital of the fund but rather remained available for transfer.

MR. McEACHERN: So in fact you've built up some $143 million extra which you can dip back into at any time.

MR. GEDDES: Yes.

MR. McEACHERN: Or you can just leave it there and use the interest as you see fit. So you're at $443 million now?

MR. GEDDES: Yes.

DR. McLEOD: This year our expenditures will exceed our income.

MR. McEACHERN: Yes, for the first time. Would that be because the income, even though the total amount has grown some — you're now working on the interest of $443 million -- is nonetheless not a great deal more than the $300 million you started with, with the inflation that has taken place? It would seem to me that your income in real dollars is not really that much bigger now than it was when you started — some bigger perhaps, but not a great deal. The cost of operating will of course have been going up considerably as you have expanded your groups. So that's where the two graphs, if you like, have crossed. Your income has not changed that much — maybe it has gone up a slight amount — but your costs have gone up much faster. We've now reached the crunch point, and that's why you're saying you need another $150 million.

MR. GEDDES: That's basically correct.

MR. McEACHERN: You're expecting that that $150 million will get you through to a next level. At that level do you become self-sufficient or not?

MR. GEDDES: We believe that if the endowment were supplemented, commencing in 1990 we would see ourselves able to fund the programs which will come on stream over the next three years and which will reach some state of maturity by 1990. We believe we could enter the decade ahead with the assurance that for a number of years, perhaps not for the entire decade, the income arising from the endowment would be sufficient to meet those costs as we presently see them.

MR. CHAIRMAN: Did you have one final supplementary?

MR. McEACHERN: No, that's okay. It would be on a different topic.

MR. PAYNE: Mr. Chairman, when I originally put my hand up, it was to ask Dr. McLeod a question with respect to research co-ordination and rationalization. That's been largely dealt with in response to the earlier question by Mr. Moore.

However, while I have the floor, I wonder if I could ask Dr. McLeod a question with respect to psychosomatic illness. In the past several years it seems I've read at least half a dozen articles in fairly authoritative journals indicating that a significant proportion of illness is, in fact, not physiological but psychosomatic, if you like. I've seen estimates range as high as 60 percent. That may be from the National Enquirer; I'm not sure which publication used that fraction. But I think you would agree, Doctor, that it goes without saying that an unspecified proportion of illness in Alberta and globally, if you like, is psychosomatic. That prompted me to read through the capsule summaries of the research work being undertaken by the heritage medical scientists and scholars. From the titles, many of which are obscure for me, I couldn't ascertain or detect any research in that area.

If that's a correct observation, I want to ask if it is a matter of policy that the foundation regards psychological studies as nonmedical. Or is it simply a question of not attracting a very high priority because of the competing demands for other kinds of research? If so, why?

DR. McLEOD: It is not a policy of the foundation at all. As a matter of a fact, I think many of us would be anxious to see the day come when we can tie this together. We all recognize that the central nervous system has to go into another area.

In fact, we do have some studies. For instance, we have a psychologist studying learning patterns and the management of autistic kids at the Glenrose through the department of pediatrics at the University of Alberta. We have a newcomer to the Faculty of Social Sciences at the University of Calgary, who is mentioned in here, Dr. Eggermont from Holland, who is taking a look at learning and hearing as a mixture of both medical and psychological problems, if you use those terms "medical" and "psychological" separately.

So it isn't a matter of policy. It really has been a matter of what has come forward before us, and we've been able to do that very carefully. I don't think there's any question that in the world at large there is a strong bias in favour of those people who can work at the cellular-molecular level.

MR. PAYNE: At which level?

DR. McLEOD: At the level of the molecule at the bench. I think most people are hoping that that can also happen in the psychological domain. But we would look at applications just as quickly as long as they were first-class and as long as they dealt with an illness-related phenomenon. That would include psychological problems.

MR. PAYNE: Thank you. That answer leaves me without a supplementary, Mr. Chairman.

MR. PIQUETTE: The question I have is related to what evaluation system is employed by the foundation to establish priorities in terms of how the grants are given to various individuals. Is it basically on a first come, first served basis? I guess there's a lifetime of five years in terms of the length of the grants being given out. What evaluation procedures are used by your foundation to see if we should not be extending that type of research for a term longer than five years?

DR. McLEOD: You have a very good question; it's a troublesome one. The history of the foundation goes something as follows. At the time it was instituted, the major deficiency was where medical research was related to the numbers of well-trained people who could compete in that international arena. It was decided that we should look at and fund very well-trained people who show considerable promise in the best judgment of the people do who that kind of work and that we should not try to focus on, let's say, an illness or an area or a discipline, on the grounds that that has not done well in the past.

It's akin to the fact that because Mr. Kennedy thought he could put a man on the moon, which he did very successfully, Mr. Nixon thought he could shoot cancer, which he didn't do at all. The technology and the basic understanding were there for the jump to the moon, but unfortunately the basic understanding and the basic mechanisms were not well enough understood to take the jump to cancer.

It was decided that one should pursue good people with good ideas, wherever they came, which is the reason for my comment to you, sir, that if it's a new and good idea from a very well-trained person and it's psychological, fine; that's where we're going. So we try not to do that.

MR. PIQUETTE: So you didn't set a priority.

DR. McLEOD: We set a priority on people and ideas. Then the second priority was to create an environment which would be attractive to young people, because then you'd make your investment in the 20- or 30-year period. The third priority was to be certain that the environment had the books and workshops and whatever was required to make it first-class.

So we carefully skated away from the idea that we would look at an area and do it. That was fine at the start. At this point in time we now have cadres of people who are in disciplines, and they're beginning to attract very bright young people from all over the place. The young gentleman I referred to, who made this breakthrough in the neurosciences, is from Pittsburgh. He was attracted because of the density of what they saw as exciting people. So there is now a natural momentum that is generating a greater emphasis in some of those areas.

Our only concern is that they remain on the frontiers of today's knowledge, that we not find them listlessly examining, re-examining, and re-examining. In fact, when you see the International Board of Review report, I'm confident that you will find that their major concern will be an old one to anyone who has worked in institutions of this sort: how are you going to maintain the excitement and momentum you have acquired? So our greatest concern is not into those kinds of specifics: do we do cancer, or do we do the heart? Rather, it is to keep supporting the bright and the young and continue to turn this over.

How we go about picking these people is an equally important question. The best evidence, from 25 to 35 years' experience now, is that you have to depend to a very heavy degree upon people who are working in a field but who are recognized as the major contributors to that field — the people who seem to have had the best ideas. We've tried to combine that kind of evaluation.

Let's say we have an application come forward from a particular candidate from the University of Alberta. The individual will propose work in a certain area. We put together a committee, half of which consists of Edmontonians and half Calgarians. They're all people of experience, people who are competitively funded, people who are producing

good research in an ongoing way. They look at that application and say to us as the administrators: "We think the following five people are front and centre in this discipline, so you send this application to those five people and ask them for a confidential written report on what they see is the merit of that application. Is it sound? Does the applicant have the right training to do that kind of research, or is it out of line with their training? Is the proposal reasonably likely to come to some conclusion? Are the costs and requirements reasonable? Are they Cadillac or Chevrolet? How does that fit in?" A whole series of questions is asked of those people. We insist that there be three of those people from outside.

Those written reports come back, and they are then tabled with this committee of six people. And by the way, we are now adding non-Albertans to that committee. They then sit and say: "Okay, we have the focussed, narrow opinion on these people. Let's sit back and say, in a broader scale, how this will fit into what's going on in the institution. Is it going to make a contribution at large, or is it going to be some person sitting in a remote part of the building who doesn't talk to anybody? Is it going to be a contribution across the system?" If the answer to that question is yes and there is concurrence on the quality of the individual, they then say to the trustees, "We think you ought to fund this one." The trustees then say yes or no, depending on their perception of what their fund needs at that particular point in time. That's how it comes about.

The renewals you asked about are equally important. At the present time it's possible for a young person to look at this program and see themselves spend their entire career in Alberta. They can come in at the scholar level and have a five-year program, and that can be renewed once for another five years, so there's a 10-year program. At the end of the ninth year they can say to themselves: "I'm doing pretty well. I'm going to apply for a heritage medical scientist award." That is a tougher hurdle, because now you're making what is seen by the community at large to be a longer commitment. They're still five-year renewable, but there is a sense that this is a hurdle that should be mounted. They can then proceed in the heritage medical scientist category. So it's quite possible for a boy in Wainwright to say: "I can see a career. If I'm bright and if I work hard enough, I can see having a full career."

One of our concerns is to ensure that there are always new young people coming into the system, so we're equally hopeful that people will be recruited elsewhere. If you read in the newspaper that Alberta has suffered a great loss, that so-and-so is going to the University of Rochester or Harvard, wince not. It's a good idea, because it means that we've had the right person around here. They've provided leadership and stimulation for young people. They have now been recognized; they are going to Harvard. It means we've got an opening for two new young people. That's good, and it's important that we maintain that.

That's my full speech. I hope I've answered your question. I feel very strongly about this, as you can probably tell.

MR. PIQUETTE: A supplementary. In terms of the life of the research funding, this is our sixth year now. Do you view a lot of this basic research funding to be renewed? From what I've heard from some of the researchers, five years is not really long enough. By the time you set it up and start rolling, the five years are basically up. What percentage of the research is going to be refunded for another five years under the present program?

DR. McLEOD: I can't tell you that, because it will depend upon every year's evaluation. But I can say that from the first group we appointed in 1981, we renewed 18 out of 23. That means that five were not renewed. Five years is a long time or five years is a short time, depending on one's perspective. Five years is sufficient time to determine what an individual is likely capable of doing over a longer period of time. It's certainly ample time for them to establish a laboratory, to put it into operation.

The scientists tell me that one of the delights -- I interviewed three of them, three new people, in Calgary on Friday. No one had been in Calgary for more than three or four months, and every one of them had a laboratory in operation. Not one of them was waiting for something to happen. We've had some difficulties from time to time -- equipment couldn't be purchased or a renovation couldn't be accomplished -- but I think the universities have done a remarkable job of getting those people in and on time.

If you take a young person and move him from a training program to most centres in Canada, it's going to be a year to a year and a half by the time they get everything put together, because they don't have access to the kind of funding that they have here. So there's a very quick start for most people. By four years they have had a laboratory in operation for a very considerable period of time. That doesn't mean that they're going to produce the ultimate in answers to that particular project, but their progress is going to be measurable, and that is what is examined at the fifth year for a renewal.

MR. PIQUETTE: A supplementary, I guess, in terms of the research grants again. In terms of revenue projections, are you looking for the rate of return to be an increasing amount for 1987 or, because of the fact that we've got a recession going on, are you looking at a rate of return that would be less than what's anticipated?

MR. GEDDES: A large percentage of our endowment fund is invested in longer term instruments, and the general slow decline in nominal interest rates that has taken place over the last 10 months won't reflect upon this immediately. It will reflect in the longer term as new investments bearing lower rates of interest are purchased. There are some equity investments as well in the fund. But speaking just to the debt instruments that are in the endowment fund, many of those are longer term instruments which were purchased from time to time over the last five to six years, so there's a fixed contractual rate of interest that will be payable on into the future. To that extent, we are shielded somewhat from the drops in interest rates, the generally lower interest rates which seem to be the order of the day. On the other hand, if interest rates were to skyrocket to where they were five or six years ago, I guess we would be in the opposite situation. But I think what you want to know is whether there will be a very sharp, measurable effect in the immediate short term, and the answer to that is no.

MR. CHAIRMAN: Just for the information of the Member of Edmonton Meadowlark, who has joined us, the committee is certainly open to all members of the Legislature, and opportunity for questions will be extended. At its organizational meeting on Wednesday, October 22, the committee directed the Chair to make sure that he entertained all the questions of the members of the standing committee prior to going on to any questions from outside the committee.

MR. MITCHELL: Okay.

MR. CHAIRMAN: So I have got you down here, but prior to you, the Member for Calgary McCall.

MR. NELSON: I want to touch on another area related to dollars and cents again. What I'd like to do is touch on the area that might be a little sensitive, the trustee expenses. I'd like to know something about the honorarium there. From '85 to '86 the jump is about 25 percent. There are nine trustees that oversee the expenditure of these moneys, and I just wonder if I can have some kind of explanation as to how that honorarium is paid to the trustees — once a month, once a year, or whatever the case might be.

MR. GEDDES: There has been no increase in the . . .

DR. McLEOD: Is that page 25?

MR. NELSON: I'm sorry; near the bottom of page 25 under administration expenses.

MR. GEDDES: There has been no increase in the amount of remuneration paid; that is to say, the basic remuneration has not increased during the year. The extent to which there would be an increase — to deal with that first — is reflective of a larger number of meetings being held.

DR. McLEOD: The trustees not only attend their meetings; the trustees normally have two or three members attend our Scientific Advisory Council meetings to ensure communication. The trustees undertook to investigate aspects of the technology transfer program, and there were some travelling expenses of a modest nature involved in that. That's what I recall.

MR. NELSON: I assume these meetings were

during normal business hours during the daytime. I find it strange that we have other people who are really somewhat public servants, particularly presidents of the universities, who are on a remuneration in any event — how they would have an additional gain by attending another meeting outside their normal business practice, of course, and certainly obtaining other money for meetings when they're already really in the public domain as such. I wonder how we can examine that type of situation. We're really doubling up on . . .

MR. GEDDES: I suppose the university presidents are not much different from any other faculty member. They are faculty members of the universities in question. It has been a long-standing custom in academia for academic people to engage in outside activities up to one day in five. That is true virtually across the board. Many university people do not avail themselves of that opportunity; others do. I believe it varies quite considerably from one individual faculty member to another. Certainly under the terms of their contracts and under the general customs, if you like, that prevail in university circles throughout the world, they're entitled and, indeed, in many cases encouraged to engage in outside activities in order that their teaching work remains relevant. Coming back to the university presidents, they are in no different a position than any other member of the faculty who has the ability to engage in outside activities and gain remuneration therefrom. There happens to be one trustee who is a member of the bench and believes it inappropriate to receive remuneration and does not receive any remuneration.

MR. NELSON: I like that guy right away. Maybe they should all be members of the bench then.

The reason for the question — certainly I have some difficulty with this sort of thing, at the universities anyway, because the taxpayer pays a very good dollar for, in some cases, I suggest, limited participation. I think the actual time spent in a teaching situation in a university is something on the average of 11 hours a week right now. Certainly they do need preparation time; I have no difficulty with that. It's the same as any teaching profession. But I am concerned. Really what we are doing is — these two gentlemen in particular, Mr. Horowitz and Mr. Wagner. Mr. Wagner I know reasonably well. I have the greatest deal of respect for him. But I'd hate like hell for them to come to the public trough twice, and that's really the bottom line.

Thank you.

MR. McEACHERN: My question has to do with the co-ordination of medical research in Alberta and Canada. I know you did sort of touch on it. Would it not make some sense to work for some kind of national co-ordinating body? I hear you saying that the interconnections are made. You've brought people in from outside, you have some local people and local universities involved, and you're sort of letting things happen. You bring them together once a year and so on, but even so it seemed to me that there would be a fair amount of duplication, two centres working in the same area. I suppose you're going to have some, and it's probably healthy to have some. But would there not be some advantage for some body to be established across this nation to sort of compile what is going on and where and take some kind of look at where national or provincial funds might be most beneficially directed? Obviously, we're not going to direct too many to some other centres away from Alberta.

MR. GEDDES: I wonder whether that couldn't be extended, however, to perhaps a North American context. Should we as Canadians be funding medical research which duplicates that which is being done in the United States? Perhaps one could just abandon the field entirely. I would think that's the logical . . .

MR. McEACHERN: If you carried it too far.

MR. GEDDES: I am not a medical scientist; Dr. McLeod is more able to answer this than I. But it seems to me that it is not the role of this foundation to bring anything like that about. Indeed, I would wonder whether it's appropriate for even universities such as our two universities to attempt to intervene too directly in that situation rather than let the initiatives come up from departmental levels, thereby gaining the vigour and . . .

DR. McLEOD: There is an enormous break, and

that is the competition for those operating grants. If a scientist has a laboratory, he has to have $35,000, $40,000, up to $150,000 per annum, depending upon the scope of the research, in order to operate that laboratory. He has to acquire those funds, usually on a yearly or sometimes every three-year basis. That application goes into a body that is quite uncomfortable about the level of competition for dollars. As a result, they are screened, they're bibliographied, and there is a literature search done on them. If they can demonstrate duplication, that's the first way of saying, "We don't want to fund it." So there is a built-in mechanism that makes it pretty tough.

Occasionally you will find the opposite occurring, where someone has reported results and there is a great deal of skepticism about the validity. You will find they will be going out and casting about and saying, "Would you please do that work over again in some other centre to try to check that through?" Admittedly that's the less common case.

There was an attempt to have a national co-ordinating body, and it does meet once a year. On the last occasion it met, it attempted to discuss whether or not some kind of bibliography might be developed for Canadian research to see whether or not it would be an added advantage. I don't know what's happened.

MR. McEACHERN: Thank you. My second question would be from some feedback I've had on the situation with the U of A and the foundation people. I'm sort of checking its accuracy, in a sense. How are the lines of communication? Some people are in this department and some are in that department and some are in this facility with some of the university people. Take the Walter C. Mackenzie hospital. Who are they working under? Who's their boss?

DR. McLEOD: The people we fund?

MR. McEACHERN: The foundation? Or is it the university?

DR. McLEOD: The university.

MR. McEACHERN: In other words, you slot people into the university.

DR. McLEOD: They apply. We decide to fund or not to fund. If we decide to fund, we fund the university. Or if the application comes through the Cancer Board or a hospital, we fund the Cancer Board or the hospital. That institution then establishes an arrangement with that individual, and a salary negotiation goes on. There is an agreement on the trustees' part to the arrangement, and then the funds are provided on a quarterly basis to the institution.

MR. McEACHERN: To be a little more specific, in the case of the hospital, what about the hospital board and the university? Is there not some duplication or confusion there? You've got a lot of people working in that complex.

DR. McLEOD: There is a co-ordinating body at both the board level and at the administration level at the university and the University hospital, using them as an example. The same thing applies to the Foothills hospital and the University of Calgary board.

MR. McEACHERN: I gather that was working fairly smoothly, whereas I was getting feedback that maybe things weren't quite as smoothly organized here.

DR. McLEOD: They work well, as far as I know.

MR. McEACHERN: As far as you know.

DR. McLEOD: As far as we are concerned, it is a smooth operation.

MR. McEACHERN: Some of the research people, I think, are sort of left on wards wondering who is their boss, the university or the hospital.

DR. McLEOD: Should we go aside sometime, and I'll tell you about it?

MR. McEACHERN: That's what I was asking.

DR. McLEOD: When you work in that situation, which I worked in for many years, you really do have two kinds of employers. One pays your salary, but the other commands a great deal of loyalty. You work for the university. It has its high level of loyalty, but if you're a clinician, you have a loyalty to the institution that's

responsible for patient care, the hospital. If you're an administrative officer, if you're head of the department, you clearly have two bosses. One is the president of the hospital and the other is the dean of the medical school. I did that one for a number of years too. So it behooves you to learn how to ride two horses at once. It does leave some people with a problem, but they're navigable.

MR. PAYNE: Mr. Chairman, my question to Dr. McLeod arises from some recent constituent telephone calls in which concerns were expressed for the continuing viability of the in vitro fertilization research being done at Foothills hospital. I'm very sympathetic to those concerns. As one who was an adoptive father 20 years ago and aware of the very great difficulty now for infertile couples to adopt, I'm particularly sympathetic to those kinds of calls. Dr. McLeod, I understand that the foundation is presently conducting some research in the area of in vitro fertilization. Is that research co-ordinated in any way with the fertilization work at the Foothills, and would you care to indicate what kind of priority the in vitro fertilization work at the foundation will enjoy in the medium term?

DR. McLEOD: I also read the same newspaper on Friday. I don't think there is a problem with respect to research. There is research support. It's ongoing. It will be judged in due course on its own merit. I don't believe that the research, whether it increases or diminishes, will have a bearing on the problems that your constituents have brought to your attention. That is in the patient care area, not in the research area, and I am confident that the research component is being done quite well right now and won't, to the best of my knowledge, be impaired. But that, unfortunately, is not where your constituent has the problem.

MR. PAYNE: Nevertheless, I am pleased to hear that expression of confidence.

DR. McLEOD: It's good research.

MR. PAYNE: Thank you, Mr. Chairman.

MR. R. MOORE: Dr. McLeod, in your original comments I heard you touch just in passing on Alzheimer's disease. That particular disease is a lot of concern in my area. It's affecting a lot of constituents. What are you doing in your research? Where are we at? Where are we going? Is there anything coming on the horizon? I think you said you were doing research into that.

DR. McLEOD: There are staff who have a considerable wealth of experience in research into Alzheimer's, and if my memory serves me, it's from Johns Hopkins University. They're established at the University of Calgary, and they have put together two components for their activities. One is a clinic to which physicians refer patients where there is difficulty in assuring whether the diagnosis is correct, because not all memory loss and confusion is the result of Alzheimer's. I can vouch for that personally — hopefully.

MR. GOGO: The subject is of great interest to this committee.

DR. McLEOD: So there is help in that setting. Not only that; there is expertise there that helps both the physician and the family grapple with what it is that's going to have to happen. I appreciate that that doesn't cure the problem, but it does address heavily the concerns of the family and so forth, which is a very important part of that whole process. So that's the first step. That's the patient's side of it.

In the laboratory those people are doing some very fundamental work in trying to determine the mechanism by which people develop Alzheimer's. I can't address that personally because I just don't recall very well, but I do know that it's attracting funds and it's attracting interest from other centres, so it must be pretty classy research.

I don't know whether I could identify anything that's in the immediate offing. I am told that there are now a couple of drugs, which I believe have been used in very carefully controlled trials in eastern Canada and the United States, that show some promise. But it sounds very early to me. I wouldn't want to make any more comment than that.

MR. CHAIRMAN: In light of the hour, I think I'm going to have to conclude the question period. I want to thank Mr. Geddes and Dr. McLeod very much for their co-operation and

the assistance they've extended to all of us in arranging to appear here this afternoon. I'm sure I speak on behalf of all the committee in saying that it was a most productive and informative afternoon, and we appreciate your frank and thorough answers.

I also want to say that we're looking forward to the triennial report as well as the report of the International Board of Review that you alluded to earlier. It certainly sounds like we have some very well-qualified and capable people in place there. I also want to say that we're looking forward to visually inspecting the Research Council facilities, and we will arrange for that as quickly as we can in the future.

DR. McLEOD: I'd wait for a little while, sir, because I visited them yesterday, and they'd be pretty dusty.

MR. CHAIRMAN: We want to wish you continued success and a most successful coming year. Thank you very much, gentlemen.

MR. GEDDES: Thank you, Mr. Chairman.

MR. CHAIRMAN: If there is no other business, I'd entertain a motion to adjourn.

MR. McEACHERN: Actually, I do have a question. I'm not sure whether or not you interpreted our decision the other day about outsiders quite correctly. I thought we got the chance to speak at least once first, rather than all the questions, before we let other people.

MR. CHAIRMAN: Maybe I can review that in the Hansard and get back to you.

MR. McEACHERN: Perhaps you could just check the minutes on that for the next meeting.

MR. CHAIRMAN: I'd be happy to.

I have a motion to adjourn by the Member for Lacombe. All those in favour?

HON. MEMBERS: Agreed.

[The committee adjourned at 3:55 p.m.]