Bernard Becker Interview
Conducted by Ed McManus: August 4, 2004
Eye Research & Establishment of the NEI

McManus: This is Dr. Bernard Becker and we've just signed the release and we're going to get on with talking about eye research and the establishment of the NEI and some of the things that happened a few years ago.

Dr. Becker: A year or so ago I was asked by ARVO to review eye research, its past present and future for its 75th Anniversary. There were one or two paragraphs I thought I could I read to give you an overview of things that I took part in. I must say that my participation was largely with the National Institute of Neurological Diseases & Blindness (NINDS) before the NEI and with the development of the need for NEI and then the actions we took to get NEI. So it's that critical period that I will deal with.

McManus: And that's the part we've had the hardest time…

Dr. Becker: What happened with the NEI, Carl and all the others could tell you much better than I can. But this I think is important. Let me just read this, and then we can come back to the details on any of this, who tried to do what and so on. So, ARO that's the Association Research, that's the original one before they changed it to ARVO, established a small research program by a group of prominent academic ophthalmologists including Wilmer, Woods, Benedict, Gradle, Berens, and others. Originally there were approximately 100 members and after 20 years there were 300 members but only approximately 50 attended the 1948 meeting in Chicago. This was my first meeting and I was there to hear Jonas Friedenwald present the first Proctor Lecture. We met with the AMA Section of Ophthalmology so as to have a sufficient members present. Dues were $5 per year, abstracts and papers were published without charge as a supplement to the AJO.

In 1948 as a Fellow in Friedenwald's laboratory I became aware this great clinician scientist and role model used his own funds and gifts from patients to support his research. Overall with the exception of a very few major centers our research had neither money or research workers nor facilities to carry out fundamental research. In 1950, it was Fight for Sight that managed to add blindness to NINDB. I remember the eight years of the Sensory Disease Study Section of NINDB where in one day we reviewed all eye, ENT and neurosensory research applications. Later I felt even more isolated as I was the only ophthalmologist member of the NINDB Council.

In 1961-1966 I had the opportunity to chair an ophthalmology training grant committee of NINDB. With massive efforts and the help of Mel Rubin and others, mostly academic ophthalmologists, we were able to offer sufficient funds and to convince many medical schools to separate their academic departments of ophthalmology from sub-divisions of surgery. We also provided support to attract residents and basic research workers to careers in eye research. ARVO provided

a forum for research information with separate meetings. To increase attendance we chose resort areas and inaugurated long mid-day breaks. In 1962 we started our own journal, Investigative Ophthalmology. In 1967 I chaired a sub-committee from NINDB for vision and its disorders. This resulted in the Enoch Report on the Needs for Eye Research. I don't know if you have that report do you?

McManus: Oh yes, we do.

Dr. Becker: I reviewed that report and it's amazing how up to date it is. It was done some 40 years ago and it's pretty good. Soon we were receiving more requests than funds allocated to our small division of NINDB. I appealed to [A. Edward] Maumanee, Newell, Cogan, Hogan, and Leopold for help in organizing and funding the rapidly growing eye research group. RPBs building program, departmental grants and financial support contributed to further rapid growth. They also helped us to establish AUPO as a voice for Academic Ophthalmology. Through the efforts of RPB and AUPO, we were able to convince Congress to establish the NEI in 1968. Further development came from the efforts of Carl Kupfer of the NEI.

That's a summary of the years I played a role. We can go back over that in terms of the details. At the same time I was on a committee, and we worked very hard through Congress to achieve this.

McManus: I was just reading something about where a group testified back in the mid-60's early 60s on behalf of Neurology, the cures in research in the…

Dr. Becker: You see that group single-handedly got the "B" on NINDB.

McManus: Do you remember how any of that, I mean that was extraordinary about the blindness part. Was that her intention to do that when she went in?

Dr. Becker: Yeah, Muriel wanted blindness put on the main NIH agenda so that there would be funds for blindness. And if NINDB started without that it would have gotten nowhere.

McManus: Well I think that they didn't ask the blindness people to go in and try to help them get money for the Neurology Institute after that.

Dr. Becker: No I think not. Now, I was essentially on the study section and then I was on the Council. And on the Council I was really isolated. I was the only ophthalmologist. The head of the NINDB then was Masland and he was a very wonderful guy, but he was committed to Neurology and neuroscience. He only gave, I thought, lip service to ophthalmology. We had this training grant committee with Mel Rubin as Executive Secretary. You could talk to Mel. We had about six ophthalmologists at that time and we visited medical schools and recruited. We would go to the school and talk to the Dean and suggest that they have a separate eye department. Most schools had ophthalmologists as a division of surgery but not in separate departments. And what we did was we really in a sense offered a bribe that we would provide funds for training if they would

establish a department, and this worked for many schools. The purpose of the funds, and I think this comes up in some of your questions about training, this was back in the NINDB. The purpose of funds was to train academic ophthalmologists. We could use the funds for paying the salaries for full time people as well as in paying for trainees, if the trainees were committed to careers in research we made them do research projects as part of their service. It wasn't that we never trained them to be clinicians. And that was my philosophy at that time and persists is ever sense. So in the eye departments at that time, when I took over this department, there were almost no basic scientists. It was looked down upon. I wanted to have basic scientists in my department and I did. Some of the best people like Dolph Cohen who was here full time and had all kinds of awards and acknowledgements…

McManus: Right, I remember Dolph.

Dr. Becker: But his appointment was in anatomy as well as ophthalmology. We never would have been able to get him otherwise. We made a big effort to get basic scientists to come into our departments so that we could pay them and have them do eye research and show them what could be done in eye research. And the residents we selected got a stipend which was in addition to our regular residency stipend. So they were paid extra and they spent extra time often in this department—they spent an extra year. They took a year out in either the middle of their residency or at the end of it to do research. So many of those turned out to be some of the best, thorough research scientists we had.

Then in '64-'66 we set up this committee to review—this committee was the first one that ever decided what is needed for eye research and what are the fields in which one can work. What are our greatest needs? And they reviewed the entire clinical picture including basic sciences in ophthalmology as well as epidemiology and rehabilitation. We had Father Carol on it and other really great people. And we put together a document that recirculated and what happened was that…

McManus: She supported this? Because Forman (?) I guess supported this?

Dr. Becker: Yes, that was supported by NIH.

McManus: NIH? But just vision and eye disorders?

Dr. Becker: Yes by NINDB. Now, by 1964, Jules Stein decided he wanted to support eye research and he set up a committee and I was on the committee as well as members of our other committee. The same group of people, a group of about four, no six of us. We were on every committee. We were on NIH, we were the Boards, were on ARVO, AUPO. Anyway, Stein set up this committee and somewhere between '66 and '68 we had an enormous increase in applications for eye research and we were just swamped and there weren't enough funds. We had went to see Masland about this. I even went to see Shannon about it.

McManus: Do you remember the 15% allocation for vision? Duane mentions that in his history that there was arbitrary ceiling on that one.

Dr. Becker: And it was insufficient really. There would have to go much higher priority than those other groups in the review committee. And I objected to this and I discussed this, a number of times and tried to do everything I could. Then I went to the committee: Maumanee, Leopold, Cogan, Hogan, Newell, and me. We'd formed this committee when we were trying to create RPB. The main goal of this committee was to set up the AUPO, Association for University Professors of Ophthalmology. And with the help of RPB we did set up the AUPO and had our first meeting in 1968 or in 1967. We set it up in '66. And at that meeting I had a separate session with the other five members and we decided that we would need a separate eye institute.

McManus: Was this in Chicago?

Dr. Becker: No, no this meeting was in Phoenix, Arizona.

McManus: Phoenix, Arizona? Do you remember who was leading that discussion? Was that you or was that others that you needed a new eye institute?

Dr. Becker: It was me because I was on the Council. The leader of the organization of the AUPO was Ed Maumanee. The others were good supporters.

McManus: Where was Cogan in this?

Dr. Becker: Cogan was the head of the department at Harvard at that time.

McManus: So was he active in this discussion?

Dr. Becker: Yeah. And so it was Mike Hogan from the University of California and Frank Newell and Leopold. When I got back to the council after that there was a great effort on the part of Masland. He set up a separate sub-division with an Assistant Director for Ophthalmology within NINDB. Because I had complained so much about the lack of budget and I had gone to Shannon.

McManus: You had gone to Shannon?

Dr. Becker: Yeah.

McManus: What did Shannon say?

Dr. Becker: Shannon said he thought that we should get a better share of the funds and he would talk it over with Masland. So Masland offered me the job if I would come full time as the Assistant Director of NINDB for ophthalmology with a separate budget. So that I could get budget allocation for this.

McManus: I bet Shannon and he had talked about this.

Dr. Becker: Yes. There would be a separate budget which would not come through NINDB, but would be a separate allocation from ophthalmology. I brought this back to a

committee to RPB, and they decided they were going to go ahead for NEI—for a separate eye institute it wasn't called NEI then. And with the help of RPB and Jules Stein who financed a lot of it and we all testified to Congress and we got it through. We got the separate eye institute through and that was in 1968. But in 1967 was when all the testimony and the AUPO were behind it, as well as RPB and our committee. And so we formed NEI and then for a time we had this embarrassment that all of a sudden we had lots of money and we had nobody to run the NEI. And again several of us met with Shannon and Shannon thought that Leopold should be the one to run NEI and I agreed. But Irv at that time was toying with the idea of going out to California.

McManus: Now where were your plans in this? You're in St. Louis and had said that you didn't want to go to NIH. I would have thought that they would have pressured you to go to NIH because you were the leading academic and perfect to lead the NEI.

Dr. Becker: Me, I'm very grateful with the two they considered. I told them that I didn't want to be considered for it because I did not want to work full time for the government.

McManus: I got it.

Dr. Becker: Washington University offered me a great freedom. We had an Executive Faculty where I had an equal say with every other department of how the school was run and I felt a certain freedom and I could do what I pleased. My experience with government with all of the maneuvering behind the scenes and everything…

McManus: Yeah, Carl and I sympathize with you.

Dr. Becker: Well if you think it was bad with the NEI you should have seen it in the NINDB.

McManus: I know.

Dr. Becker: I remember some of them, like with Murray…

McManus: Carl and I are going to talk with him. In fact Carl had said, "I'll talk with him."

Dr. Becker: He wasn't the Director then he was the …

McManus: Extramural.

Dr. Becker: Yeah. So I said no, I didn't want any part of it and I suggested to Leopold. And Leopold considered it because he wasn't happy in Philadelphia. He was at Wills Eye. As a matter of fact Ed Maumanee offered Leopold the job to come full time at Wilmer, and he was going to take that. Then he was offered this great job out in California and his wife wanted to live there and they loved the kind of life it would be and he took that. And so then we were left for a year or so. When I was a resident and my residency was at Wilmer…

McManus: What year was that?

Dr. Becker: I was at Wilmer from ’47 to ’53—uh, ’52, not ‘53. Yeah, I came here in the end of 1953. When I was a fifth year resident, the fifth year resident, ran the residency program. We spent three years as a resident and the fourth year doing research and in my fifth year I was running the whole show.

McManus: Who was your predecessor during that? Do you remember?

Dr. Becker: Yeah, Russ Snip—I don’t know if, I think he’s still alive and Howard Nagwin and before him was Robert Day and Bill Marr. When I was a fifth year resident, two of the people whom I selected for the residency program, who were in their third year under me—I was really running the show and they were the principle operators. And there were two of them, Sears and Kupfer whom I thought were terrific. They both were interested in research and they both had subsequently gotten academic posts. Sears had taken over at Yale in the Department of Ophthalmology and Carl Kupfer had taken over at the University of Washington. And I thought that they should consider those and after some back and forth they chose Carl Kupfer. And I thought that was terrific. And then the NEI was born and I was on the Council with NEI. I used to work with Carl with some planning committees and trips to New York.

McManus: Do you remember the planning efforts because that was really that was probably the beginning of program planning at the NEI was really kind of sparse later on when I came in ’73…

Dr. Becker: I remember going with Carl and talked about this. We talked about how he had plans for the future but I don’t remember more than that. We met at Carl’s house at the time and I had come early for Council meetings. Then I remember trips to New York with him to visit…

McManus: Environmental Health Sciences.

Dr. Becker: Yeah, cause he…I think he had a brother or somebody who worked there. Sherman?

McManus: Yeah, a dentist.

Dr. Becker: Yeah, we visited with him and we talked about it.

McManus: Yes I have a lot of the minutes that came from the council meetings and you’d go back and report about those task forces on the different…

Dr. Becker: And that’s really all I have to offer you. I mean it’s that in between period, which I thought was….

McManus: That’s very important to us.

Dr. Becker: Scenes things, but aside from that I didn’t I mean it was all Carl all the way after that. He ran the show and he did what he wanted and he did a splendid job.

McManus: Do you remember? Were you a part of the meeting? We talked to John Sherman the other day and he kept bringing up your name. John Sherman was the head of the search committee I think for the Director of the NEI and he was Deputy Director of the NIH at that time that the Eye Institute was created. And he said that you went to a meeting on a yacht down in Sarasota and Ed Maumanee was there and he thought you were there and that's when Carl's name was put forward. Do you remember?

Dr. Becker: I remember, yes.

McManus: Well whose boat was that Bill Conner's yacht?

Dr. Becker: I don't remember…, I remember going out and I remember discussing Marv Sears. Well, Marv Sears was considered at that time to be a leading candidate. He worked with Barney and did very excellent research. Carl was doing some research but it wasn't as profound as Marv's at the time.

McManus: Yeah, he's a genius.

Dr. Becker: Yeah, but I mean that he did things his own way. He might be a better scientist than an administrator? Someone who could run something as important as this and need to have administrative skills so we pushed forth for Carl. Now I didn't know at that time whether Carl would be movable. But I figured well, this would be an opportunity for Carl. Carl and I knew each other well and we often, you know how we'd get on this way and go to meetings and he and I would often get together and have dinner and we'd wander around, walk around town.

McManus: How long were you together at Hopkins?

Dr. Becker: About four years.

McManus: Did Carl spend time in the Bio Statistics Lab at that time? I think that was very important later on.

Dr. Becker: He was doing research, both of them, both Sears and Kupfer were doing research in glaucoma and was my main interest at the time and Carl was doing some research. He was making experimental glaucoma. We used to have these meetings and we'd all be invited to be able to discuss the most current research.

McManus: That's kind of golden time for glaucoma with all you guys in the same place throwing around ideas. I think that you even impressed Maumanee because later on I remember him back in the '70s, I know he was into glaucoma before but with some theory of glaucoma.

Dr. Becker: Oh yeah, this was before Friedenwald's influence. This was uh, his was major interest was in glaucoma or he was interested in diabetes. I wrote this thing more recently that he was interested in everything, so.

McManus: Do you do, I thought I saw someplace where you also did some cell work in the retina. Did I miss something there?

Dr. Becker: We did ganglion cell work and that's what I'm doing now at St. Louis. We're interested now in keeping the ganglion cells alive even if you have elevated ocular pressure so we're using this sort of so-called neuro-protection. This is the great, current thinking that we've done all we can to develop drugs to lower intra ocular pressure and treat that way. But some people continue to lose vision in spite of lower pressure. And some people have very little elevation of pressure or no elevation. So we're researching preventing damage to the ganglion cell and we have found a few methods for doing that. Using drugs or if you prevent aging in rats you prevent damage to the ganglion cell.

McManus: That's right.

Dr. Becker: And the easiest way to prevent aging in rats is to underfeed them.

McManus: Yeah, I remember Hodus, the Director of the Aging Institute about ten years ago coming out with that.

Dr. Becker: That's the way you can avoid cataracts too.

McManus: That's interesting.

Dr. Becker: So now they're going to try and do this with people to slim them down. But if you'd put rats on two-thirds of them on a diet and restrict them to that, first of all you'll live about 40% longer and you'll become resistant to glaucoma. And then you can produce glaucoma and then get much less damage in the eye. But how can you do this with people?

McManus: Well, but you can find a mechanism.

Dr. Becker: Find a mechanism for it exactly. The most of what we're doing now for the last four or fiveyears, we're spent years in neuro-protection research.

McManus: In the meetings with RPB, was Stein ever active in those discussions do you recall?

Dr. Becker: He was there and he wanted to uh, you know about Jules Stein, he was an ophthalmologist in Chicago and put himself through medical school and his residency by playing in a band. Then he organized bands and then became more of an entrepreneur in terms of organizing bands and sending them out to work in various places, working on a commissioned basis, and that became so lucrative that he formed the Music Corporation of America. That then became a multi-million dollar enterprise and so he gave up ophthalmology and didn't practice. He made a tremendous amount of money and he was feeling at this time, I don't know if you'll call it guilty but he was feeling like he should do something for ophthalmology. And we got to him and discussed it and we decided to set up Research to Prevent Blindness. We set up the organization and provided funds for all eye departments in the country, as well as providing fund-raising funds for selective places like Louisville, and others. In other words he would pay for the fund-raising in order to do construction to better the departments and this spreads

the money and makes the money go much further. And bringing key people to these departments through block grants, and ever since that started this department for example has gotten a chunk of money every year. Never fails, every year we've get money ever since.

McManus: Now Dave Weeks was there right from the beginning right?

Dr. Becker: Yes, Dave Weeks was hired after about the first year or so. The company needed a good Executive Director and we interviewed a number of people and I don't know how we got to know about David Weeks but he obviously was superb, and he's been terrific ever since.

McManus: I'll see him in a couple of weeks.

Dr. Becker: Oh good. And he played a key role in establishing the NEI. We never could have done this. We never could have gotten through the red tape without Dave Weeks' efforts.

McManus: We were trying to find out how much RPB put up to create the Eye Institute. And I know they hired Luke Quinn as a Lobbyist and that must have been a significant investment and I know, I'm going to ask David.

Dr. Becker: David, he may be able to tell you but that none of us, I'm going to guess at that time that I don't think that any of us was so interested in money, you know? Now in these days you hear about it. But if anything was done then it was all very quiet and like, I know we greased the skids but we would never have been able to tell you about that.

McManus: Yeah I know and I mean just what he paid for lobbyists and the like.

Dr. Becker: I don't know.

McManus: And I think he had lunches with Eisenhower, or something when the bill was …, David knows.

Dr. Becker: Yes, he would know the inside track, and all we did was go to say why this was important from a scientific point of view.

McManus: Ed Maumanee was involved with the Washington guys right?

Dr. Becker: Yes, Maumanee was most effective.

McManus: Because I worked with him later on.

Dr. Becker: Of all the people in the small group, he was most effective politically. Maumanee was not, he didn't do much research anymore, but Maumanee was a great leader and a great administrator. He was excellent at clinical research. But Maumanee was the leader and the others sort of tailed along. They were just for show, you know to come and talk to Congress and the like and uh. I knew Maumanee you see when I was in my residency. Maumanee was there as he'd just finished his

residency and was on full time with Alan Woods who was Chairman of the department. And than Maumanee got this job at Stanford with the department there and then when Woods retired, they called Maumanee back to head the department. And so he then became Chairman. When I was there he was not Chairman, Alan Woods was Chairman.

McManus: But Maumanee was there but when he came here he was at Stanford. Getting back to my list and you've covered a lot of it. I was just kind of—you covered at what point did you think about creating a new institute at those early meetings and your involvement in the effort and who led the effort and some of the significant decision points, but what were some of your major expectations for the NEI? The reason I ask that is that kind of when we do this, Carl and I kind of have a theory that the expectations for the NEI were pretty big and to a larger extent we satisfied them an bring them further and we'll see as we go along.

Dr. Becker: Well the first thing you wanted was more funding, I think that was critical. Having all these applications and all these people that Weeks stirred up who wanted to do eye research. There's nothing worse than going out and getting people to get interested and coming back and having them write a good application and then not get funding. We wanted funds and we wanted funds so that we could essentially bring all the help that we could. And that happened and that was good. The second thing I would say is that we felt it very important and this goes all the way back to Friedenwald. Friedenwald made the point that eye research would never progress if it stayed in the hands of clinicians. We had to get basic scientists in and then you had to have, what do you want to call it, physician scientists who would interchange between the two. In other words, it's very rare then more than now to have a physician, who is a great clinician and a great teacher, be able to do really fundamental research. They can do some, but the best thing they could do is to relate to research programs and stimulate research programs and similarly you can get great research workers, but unless they have some clinical orientation or somebody to relate to clinically, the research is not going to have clinical importance. So we felt that this was very important so we felt that it was important to use training grant facilities to do what we had done before to track first of all to choose residents who were interested in research. Here for example, almost all of our residents are MD, PhDs. They have research experience. We chose residents that were interested in research and then we provided funds for them and we also provided funds for other people who were willing to train them. The other thing we felt was important is the further publicize importance of eye research to prevent a significant part of blindness. We had to show how attractive eye research was because everything is right there in front of you. It's layered and you can look at it in the living and it's attractive to research workers. Convincing Congress that it was very costly to take care of blind people and we could prevent this. And most people, many people feel as if, particularly as they get older, that the most significant thing for them is their vision, almost more than any other sensory.

McManus: I think that Gallup Poll of the RPB Commission of 40 years ago showed blindness as just behind cancer was one of the most significant things that anyone has every done.

Dr. Becker: It's true. And so, the other thing we wondered was. Now I said, we thought it was important to not only to get the research workers and the clinicians but to have them work together and essentially this concept of going from the patient with a problem to the laboratory to resolve the problem, perhaps similar models in the lab and then come back to the patient and apply—this concept is what we thought was very important and that the NEI did a good job of this. The other thing we thought that there were some very good people and this is of course is secondary, very good people abroad like Barany and Goldmann and others that we thought we should, rather than support them directly, to have them relate to the problems in this country. For example we had an affiliation between Armaly and Barany and between this place and Goldmann. And we could travel back and forth and we could collaborate in our work efforts. We chose to pick up the best of the researchers in the world to work with us and this method could get things done much faster.

McManus: That's very interesting because I put in the international relationships in there and I really wasn't thinking so much of that, but I think you're absolutely right. I wasn't thinking so much about the collaborations between sophisticated research organizations, I was more thinking of some of the things we've done with India and China and like that.

Dr. Becker: No that's different.

McManus: But, this is very important because I told many years ago, I told the Academy of Ophthalmology head, I said you'd better look around you've got a large membership and it's international in scope. I mean you're a big international meeting. You're the biggest—you're not just a U.S. ophthalmologist and I think a certain amount of that was because of the NEI's ability to support a big research program in the US.

Dr. Becker: That's true. But this is even much earlier on, for example, when I was in my training in my fourth year. I did some research with Barany in Sweden and that was highly unusual then.

McManus: Who supported that?

Dr. Becker: No one did.

McManus: No one?

Dr. Becker: There was no NEI, no NIH support then. Then after that you see people like Marv Sears went to Barany and so did Paul Kaufman. Bob Moses went to spend time with Hans Goldmann. And it's back and forth and actually we brought Goldmann here for a couple of years and he was able to get down and work with

the residents and so these were things that we could do which we thought were very important. That was supported by the NEI.

McManus: Epidemiology and clinical trials?

Dr. Becker: Well Carl Kupfer is responsible for that. I have to say that I didn't think that this was the most important thing to do. My theory was that it was terribly, terribly expense and that by using funds for this was displacing many R01's. My key was the young investigator and these things tended to go to older people and required very large chunks of money. However, we were very interested here and there was considerable interest in diabetic retinopathy and treatment of diabetic retinopathy and Ed Okun was here.

McManus: Oh, that's right. It was a major clinical trial in the NEI.

Dr. Becker: Yeah, and Ed went spent time at NIH. We hit upon a diabetic retinopathy study and I was part of the original planning on that with John Harris. It made sense to me but I really worried all the time about how expensive it would be and it was. Carl Kupfer pushed for that and I must say that he was entirely right. I mean that was the most exciting findings and it got the Eye Institute tremendous recognition.

McManus: It got that but we always were cognizant of the dollar problem.

Dr. Becker: And it worried me all the time.

McManus: And it should have.

Dr. Becker: But Carl was right and he pushed further against many theories, many of us who said that's too expensive and we won't be able to support other research. Carl thought this was important and in a sense he was lucky, it paid off. I wasn't enthusiastic about the OATS study and Mike Kass one of the people we trained who went off with Sears and then came back to St. Louis. Mike took over the department here after Kaplan but before that he came to me with this OATS study, him and May Gordon. May is a delight, she's a fantastic statistician. And I said I don't think you should do this. It's going to cost a fortune. You don't know how to measure progression, and you're not going to find out anything in a reasonable period of time. This was in spite of the fact that I was in the literature for stating that yes if you treat patients that have ocular hypertension you prevent damage. But we had been able to demonstrate that only retrospectively. And they pushed for it and Carl helped them and they got the funding for this, enormous sums of money and I always said that I don't think this is worth it. But it paid off too and it's great.

McManus: If not to all of these due this and research, actually, I think these are some of the best things that can drive the clinical trials. Since all of these new parameters about progression and corneal thickness, and all these new hypothesese.

Dr. Becker: I know. This is terribly important. I just must say that I was wrong. But my view about research always went back to the guy working in the laboratory.

McManus: I think when you have to have a certain amount of money and that's all you had, probably most people would agree, that it's a gamble to try to get more. That comes down to the—I'll skip over the, we'll talk about preliminary planning and eye health education, but apply to clinical research. That's really what you're talking about is from the laboratory to the bedside, the price of the clinician.

Dr. Becker: I think that's most exciting thing. Let me tell you one thing more about this business about this business of doing large trials. I always thought that if you're going to do large trials with drugs that should be supported by drug companies and not by NIH. Incidentally, the OATS study was the biggest benefit to the drug companies. They're making money and not giving it to the NIH but passing it out to the clinicians so that they'll use more of their drugs or passing it out in huge salaries. I also object to their charging tremendous amounts for the drugs. Most of the basic research like the OATS study was done with NIH money.

McManus: Well, I think you have a good point and we were beginning to try to approach that but if you look other than Diamoix, which you know first-hand about, I think just about every other new glaucoma drug came out of some kind of NIH-supported research.

Dr. Becker: I thought that this was not an appropriate use of funds which could be used for more basic research. So, I'm probably wrong about it but if I were to vote I would still vote for the individual researcher here working with other researchers. But obviously at least those two, diabetic retinopathy and the OATS studies had an enormous impact. And Carl, he saw this from the beginning. He said that things would be significant, and he's right. Sure, I've gone and found a drug that I can use on a patient and I see some mechanism by which glaucoma is produced or something of the sort, it may have opened a need for it. And if you do something like this and show that you will be treating millions of people throughout the world, it's a much greater consequence plus it's a feather in the cap of the NEI. So he was right, I admit it, no questions.

McManus: But what about the laboratory to clinic? Do you see the NEI helping to develop that?

Dr. Becker: Yeah, and particularly recently. For a long time we couldn't get this but now with your new regime, this business of translational research, no question. Every body's talking about translational research and having people work in the lab and with the patient. It's the physician-scientist approach and this is what I think I was hoping for years and years ago, ever since working with Friedenwald. As a matter of fact about four years or so ago I was invited by the founders of the AUPO, and they invited to be their guest of honor and I gave a speech in which made a plea to sponsor physician scientists. The AUPO are paying young people to become physician scientists and it's not a large number of them but we did one for three years and got the second coming up now. And so this has been, my

thought, is that the greatest thing for the future of ophthalmology and I must say now that all of this has become important to all of NIH, including NEI. The recent statements from the NEI have put great emphasis on this and I'm very pleased to see that as I think that's a tremendous advance. In fact, in this same talk, and I can give you a copy.

McManus: Okay.

Dr. Becker: However, I now fear that inadequate working relationships between many research-oriented clinicians and laboratory scientists will result in much irrelevant research, wasted efforts. Granting agencies will become ever more selective and prejudiced toward clinically significant problems. To best benefit the patient with visual problems, we need more bedside to laboratory efforts to return back to the patient. Physician-scientists can offer only a small part of the solution to this problem and can barely satisfy the needs for Department Chairmen. We are increasingly facing not only separate clinical research division in eye departments, but further subdivision along specialty lines. As Paul Sieving said in a recent interview, "You can have the best scientists and the best clinicians, but if you don't get them together, working together then you've missed the boat." We look forward to NIH's support of multi-disciplinary translational research to provide important solutions to the interaction and the collaboration of problems. This still is foremost in my mind and I think they're doing that. I must admit that it's a pleasure to see.

McManus: How about the Intramural research program at NIH?

Dr. Becker: I had little to do with that. I think they're doing exciting things. These are very good people and they've been able to, as scientists' they've been able to do things without having to apply to grants and to have this support and salaries. I think the main problems there are going to be people working for government and I have some objections to that. The restrictions I think are unfortunate to tell them that…and I mean, this goes way back. The only reason why they couldn't get permission to go to some meeting or they had to get permission to do this or they couldn't spend this much, there was always some stupid problem or regulation, and I thought that detracted from the work. And for a long time they weren't able to—the salaries were very limited and didn't compare with the salaries in universities and they weren't able to supplement them in any way. And I personally object to supplements in the universities, but everybody else seems to accept this as normal. I'm very vigilant about that but I realize that's…

McManus: Well maybe you were right, I mean the recent brew-ha about the travel guidelines I think sort of underscores your point. They need to be more flexible about that.

Dr. Becker: But the NIH now is going to be more conservative and not going to allow any extra activities.

McManus: Yeah, partly because there was a couple—one guy who had consorted with six pharmaceutical companies. When I was there it was like you could do it, but

$25,000 was the maximum and we wouldn't like any body go in with more than one or two and so that really was in a pretty low…Well I always thought there could be a real good reason and I was probably wrong. When it comes to money there is no reason. I should have known that. The questions about training that Dr. Becker responded to early in his presentation were in response to the section on training that I had in the questions. He indicated to me privately that he really didn't have a lot of knowledge of the guidelines and controversy so he just talked about his philosophy on training.

End of Transcript