

Dr. Kenneth Olden Interview

Office of NIH History
Oral History Program

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Interviewee: Dr. Kenneth Olden

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Beginning of transcript

Interviewer: Today is Thursday, June 22nd. This is Dr. Sara Shostak of the Office of NIH History interviewing Dr. Kenneth Olden, Director of the National Institute of Environmental Health Sciences. This is the third in a series of interviews.

Interviewer: I'm going to go ahead and turn this on. And so, to begin with a question of how your research interest shifted when you were at Howard -- how you would describe your research during these years and of what you are proudest?

Ken Olden: The year that I was at the NIH, the National Cancer Institute, the focus of my research was basic in nature. While I realized the potential importance of what I was doing in terms of the potential to prevent metastasis, I really had not thought of going into a model, human metastasis, and actually trying to prevent the disease and prevent metastasis. But once I got to Howard and I was in a clinical setting with real people and patients, a sense of urgency was obvious. And so we then continued the basic aspects of the research but we immediately developed and sought animal models so we could see if the observation that we had made in the tissue culture dish would actually work in an animal model. So we did that. So we had been working with two or three agents and we developed animal models to test them, and we were able to demonstrate actually in animal models --

Interviewer: What animals were you working with?

KO: Mice. And we working with melanomas, which are highly metastatic, and we were working with breast cancer and we working with metastatic breast cancer cell lines as well. And so we took those two animal models, two models -- cancerous -- and we were able to prevent the spread of both types of tumors in animal models.

KO: Now -- we published one paper -- the first paper was published in *Science*. So it really got a lot of coverage and it was well received and it demonstrated at least proof of principle that you could use a very small peptide --

KO: So we got a lot of visibility for demonstrating proof of principle that you could use an anti-adhesive agent. And that's what we had been working on -- cell adhesion. And so we demonstrated that cell adhesion was one of the critical events involved in metastasis of tumor cells, and if you blocked those adhesive interactions that you could prevent metastasis. And that's exactly what we were able to do. And we were actually able to cure metastasis -- I mean prevent it absolutely and unequivocally. Now, it is an animal model and you could control things like the number of cells that were released into the blood vascular system and we did that. But it proved, absolutely and unequivocally, that if you administered our peptide to animals that had a tumor -- either melanoma or breast cancer cells -- that you could prevent the secondary growth of these cells.

Now, we tried -- the problem with the peptide and the other compound that we used was they were very small, they are very small -- you know, it's just five amino acids, and so they are cleared very fast in the kidney and they come out in the urine. So in order for something to be used in therapy, chemotherapy for example, it has to have a long half-life in circulation, 48-72 hours; or at least 24 hours. This was cleared in a -- had a half-life of 8 minutes. So we knew that wouldn't work. We would never get a pharmaceutical company to invest in it, because people couldn't afford it. So we then partnered with a pharmaceutical company to see if we could extend the half-life of the little peptide. In other words, if we could couple this peptide...

KO: But anyway, so we then began to partner with a pharmaceutical company to help us -- to couple this little peptide to a chemical entity, a compound, a polymer, a large molecule that would stay in circulation for a long time. And the compound that we coupled the peptide to was already a compound that was part of a pharmaceutical, so it was already approved for human use. So we coupled it to polyurethane, as I remember.

Well, it turns out though that once you coupled the peptide, and we tried many ways of coupling it, the half-life was stable, but then the activity -- the peptide -- was not as effective in preventing metastasis. And we could never find a combination that would work. And then on our own we tried to couple the peptide to things that are already in your blood stream like albumin or immunoglobulins, and you could do that and it would work to some extent, but we were never able to get a peptide derivative that was 100 percent -- as effective as the little peptide all by itself in the mouse model. So we kind of gave up that approach, and in the

end it was good that we did because it was kind of a naïve approach.

Interviewer: Naïve in what way?

KO: Naïve in the sense that cancer cells have a number of mechanisms about which they can attach and adhere. And so they have a number of pathways that will -- they can use for adhesion. And so we were blocking only one pathway, so they could circumvent that and go around that block. Now, you could have imagined using a cocktail -- in other words, block several pathways at the same time -- and we never actually tried that. But probably, again, it would be -- you'd have some problems. So we finally decided because these adhesive interactions are needed for normal development and normal body functions -- I mean, for example platelet aggregation and clot formation; that's how they aggregate, they stick together. So you need adhesion, cell adhesion, that's how cells stay together in the organs, in tissues, so most likely there would have been toxic side effects.

So we went to -- when I went to -- came back to the NIH, then I decided to take a different approach, in other words, assuming that if there's ten adhesive pathways or five that there must be some common intersections, something they all have in common, and they have to go through that intersection before they can be effective. So we decided to try to find that common pathway and to block that common pathway. So then we could say that we could block all adhesive pathways for a short period of time that you needed, maybe 24 or 48 hours, and then you could relieve the block, remove the block, and you could have normal development. And the toxicity would be minimal or greatly reduced.

Interviewer: So when you came back to NIH, could you clarify which lab you're talking about --

KO: Yes.

Interviewer: In this period of time?

KO: Yes, so when I came back to the NIH I came back as director of the institute. Right. And so when I was being interviewed I said, "Can I have a lab -- laboratory? I will take the job if I can continue my research." Nobody ever answered that so I didn't -- and once I was there I realized why they didn't answer it. I'm the director, I can have whatever I want.

KO: So no one answered, so I set up a laboratory and kept -- maintained the laboratory all those years. And we have now developed a very robust research program, very active, vigorous research program looking at and we're -- we are having some really exciting outcomes. And that's another reason that I do want to actually absolutely spend more time directing my laboratory on a day-to-day basis because I think we have as good a chance as any others is cracking some of these important problems and preventing -- making a real important contribution to cancer treatment and prevention. So I want to go back and do that. So that's another reason that I am stepping down.

Interviewer: Let's talk about when you stepped up.

KO: Right.

Interviewer: In 1991 you were named director of the NIEHS and I know that before I talked with you more about your scientific work Vicki was hoping that you would comment on the selection process and about the media attention that you received as the first African American to become a director of one of the Institutes.

KO: Well this is just history, I'll be honest. I almost did not apply for the position because, to be honest, I felt that NIH was not going to select an African American to become director of one of their institutes. And everybody else thought that, I mean I wasn't unique in thinking that. I just thought it wasn't the right time.

Now, what was that based on? Well I had been here. I was in the National Cancer Institute. I knew the NIH. And also, I had applied for two positions at NIH prior as scientific director, and I won't say for the record -- and I thought that -- and search committee's record -- I was finalist in every case, and one case I won't say I was the finalist. Let me say I was ranked -- rated the best of all the candidates and I didn't get the job.

Now, I had applied to scientific director for NIEHS and I did not get the job at NIEHS, but David Rall who was my predecessor was straight up with me about that and I agreed with him. So I have a lot of respect for David Rall. So when I went down to interview for the scientific directorship of the National Institute for Environmental Health Sciences David said to me, "Well Ken, you have an awful lot of friends at the NIH and a lot of people think an awful lot of you and you could do this job. And so there's no question about that." "But," he said, "Marty Rodbell is also an applicant for this job and Marty is -- like you -- he's an NIHer,

everybody knows him, and a lot of people think -- knows he could do the job.” And Marty and I were at different points in our life -- Marty is older than I am, and Marty also was -- but I don’t think that had anything to do with it -- had already done his Nobel Prize research. And so he was very distinguished, member of the National Academy of Sciences.

So David said, “I’m not sure if this is the right job for you.” And he was being sensitive to our friends. He and I had some common -- same friends, Ruth [Kirschstein] and Al Rabson. And so he felt that maybe my coming in as scientific director was not going to get me where I wanted to go, and it was not the wrong job at that point in my life. So he said to me, “It is unlikely that I will select you. I will probably select Marty.” And I could understand that -- but straightforward. So the fact that I didn’t get that one was that -- was if Marty hadn’t been an applicant I would have gotten it all right.

But the other one I just felt that there wasn’t a level playing field for whatever reason and it was beyond the search committee, and that’s all I will say. And so it was shortly after -- so what I did is so I applied to this -- I wasn’t director of the Howard University Cancer Center. So Howard then subsequently selected me to be director of the Cancer Center. In other words, the Cancer Center director resigned at Howard and I was selected to replace him. And I never thought of that, but I positioned myself to be the most competitive and so they saw that and picked me.

Well, so I stayed on at Howard for the next five and a half years. And then when this position that I know was open, Ruth Kirschstein, who was well aware of all of this, my history -- because Ruth and Al had been mentors of mine from the time I showed up here in 1974. Well, Ruth called me and said, “You know Ken, this position is open and why don’t you apply for it?”

Interviewer: What was your first thought?

KO: Right Ruth, are you kidding? No, I mean my first thought was, “Well Ruth, you know the other thing” -- and she said, “Ken, I promise you one thing -- a level playing field. That’s all I can promise you, but I will promise you the playing field will be level.” And that was all I wanted to hear. And I think that’s fair. And it was Ruth, then, who encouraged me to apply. Maybe she actually contacted me twice, and it must have been the second time that we discussed the level playing field and I expressed my reservations about getting into this sweepstakes again. And she

said, "The playing field will be level, and if you're the best qualified applicant you'll get the job."

Well I applied, and I was, as I heard from Chip Leasure--Chip Leasure was on the search committee, I was told by Chip and others they had been kind of bored -- the other candidates were kind of dull and not so interested and then when I came in-- I don't know at the end of the day of the first day -- they woke up. And in the end, they said, "Look, there's no question Ken Olden is the person with the most imagination and is the person that would change the whole institute." And the institute needed to be reformed, the whole field needed to -- inspiration sparks leadership. And they thought Ken Olden was the person to do that. Now, the point is he has no experience in environmental health. And the question, so, this is either -- so the comment was, "This is either going to be the most successful choice, that as we look back on him this will be the most proud of this decision or our biggest embarrassment." But they decided, "What the hell, we're going to go with this guy because we are just enthusiastic about him."

And so in the end, they went around the room, and they said -- in the end they turned to Chip Leisure and said, "Chip what do you think?" And Chip said, "I would be proud to have this guy as my boss." And that supposedly was the last thing they needed to hear. And as Chip -- I didn't know that -- went home and said to his wife Harriet, "I met my boss today." And basically -- that was after the first day. And so my name went to Dr. Healy and Dr. Healy took a lot of courage and she selected me. And it was really Dr. Healy because Dr. Sullivan, I think, would have rubber stamped whomever went down there, as secretaries typically do. But Dr. Healy was where the -- made the difference and Dr. Kirschstein in making sure the playing field was level. Ad I felt it was level. I felt the interview was -- they asked the right question, penetrating questions, to find out if I could do the job or not and what kind of vision I had, energy level and whatever. And so I thought it was good.

So Dr. Healy invited me in to meet with her after this brief discussion she said, "Look Ken, I'm going to offer you this position, will you accept it?" And so I did.

Interviewer: Was there any doubt in your mind or ambivalence at that point?

KO: No, at Howard I learned a lot. Howard was very helpful in my career because in a small institution you have to do everything. And so I learned so many skills that I would not have learned in a

larger, more research-oriented environment. And I learned those things that people could never have imagined that I would have to do -- I did. So I learned how to interact with Congress, I learned how to beg for money and how to -- not beg, people were buying a product. So I learned to package the product so that people could raise money, to get buy-in from stakeholders, and so I learned an awful lot at Howard. So no, I was very confident that I could do the job. But as I said last week, though, if you have a lot of support at NIH, and I also knew that you moved into an organization that you had experts all around you, you just had to use them, draw on them and so I did.

Now about -- there was no press about it -- about my being an African American. That never at all entered into and I don't understand why that did not. There was press about whether I could do the job or not, did people outside the field thought -- they didn't question my academic credentials but they did question my political skills. I mean, is he going to be political enough? Is he -- is his elbows sharp enough to survive the NIH culture with the other institutes and directors? And I knew that wasn't going to be a problem. I knew my elbows were sharp enough and that I could survive in this culture.

So those were the discussions. But there was nothing about my being the first African American, and that I don't understand why not, but that's good that there was not. Because there was an awful lot of press with the first woman director of the NIH, and of course Dr. Healy just was everywhere and that was good I thought. But no, no, there was not -- and I would say there's a lot of people out there today oddly, even African Americans, who don't know that there's been an African American director of NIH because in the end -- towards the end -- so I think I've not ever had press based on my race. All the things that have been written about me have been about my accomplishments, and celebrating that or pleased with that, but not about race. Now, many of these articles put your picture there, so that's, you know, worth a thousand words, but it's never been -- that's never been an issue. And so I guess that's good. I guess that means that we're maturing as a nation so I don't -- you know -- begrudge the fact that it never happened. So I just think that's good.

And the second director has come along Rod Pettigrew and there's nothing, no press about that either and you say, "Well, I figure maybe they'll pick it up on Rod -- they don't know that I'm here." But it didn't happen with Rod either. So I just think that means that as a nation that's no longer a big deal.

Interviewer: One more question, Vicki had asked that we address, about the questions of race. And she knows the Lou Sullivan had been named director of the HHS in 1989 and Tom Malone in the early '90s and in '86, and she was wondering that if there was a sense that the late '80s and early '90s were an especially favorable time for African Americans in the US government?

KO: No, no I don't think so. I think Bill Clinton changed the -- and that's just recent. I think the climate for African Americans in government changed with Bill Clinton. And prior to that there was usually one or two, and it was almost like there was a quota. And so no. There had been even back in the Nixon administration one or two, and that was with every administration. Or one woman, one African American, that was the tradition. And you knew which departments they were going to be in -- Health and Human Services or I guess one had been in HUD. There were certain departments. You weren't going to see placements in the State Department or any -- there are nuts and bolt departments that really are important to the health -- the health and the welfare of the nation, the economy, and you weren't going to see one of them, a woman or an African American it seems to me, in those positions. But Bill Clinton changed that paradigm, and I think he -- it didn't matter to him if the person was -- the qualifications were what he was looking for. I mean, someone like Madeleine Albright.

So I think there was not, and I think Sullivan, for example, had been of Health and Human Services for years. And I think that was a social kind of -- you know, Social Security was there at the time and health and education -- and so I think it was accepted that an African American man or woman could run that department. But you were not going to see Treasury or State Department of some of the real -- Defense -- powerful departments. So the fact that Sullivan was there, I think, was not -- and no African American had risen to the top, in a sense, through science and technology, which again is kind of in the center of where we -- I mean, we're in the backbone of our economy, science and technology. And so no, so I didn't think that helped at all.

Interviewer: Okay.

KO: Possibly having the fellow at EPA, and I won't remember his name but there was a black director of the -- not the EPA -- National Science Foundation. There was a black fellow who headed the National Science Foundation when I was at Howard. Now he -- that was a different kind of job, and that was a change in paradigm,

and he is now president of Morehouse College. So if there was any one that I thought changed things and helped at NIH or helped anyplace was that appointment, because it said -- he's a -- I guess he's a commissural engineer, and he went up through science and technology and went -- he was at a place in Chicago. And so he went through like everybody else and then got there.

So no, no I don't think the climate was any better in the '80s, except maybe -- we had grown as a society obviously. But I think it was just a matter of I had prepared myself well. I had been at the right places and those are the issues that were difficult to deny. I did two top institutions, and Harvard was one of them and NIH is another one in research, and I had been at both places and I fared well at both places. But more importantly I had learned a lot from all those experiences. And then Howard proved me with a unique experience to learn things that people hadn't anticipated. But without that experience I would not have been able to succeed here. So I think it was the combination of being able to convince a group of people that I had the requisite experiences to do a good job.

Interviewer: And as you said, you had also done very important research, and the next question is about that research. I'm now a little bit out of my realm of knowledge so you may have to help me understand some of this, but I know from reading that you were the first to demonstrate that carbohydrate -- was it moieties?

KO: Moieties, yes.

Interviewer: - of secretory proteins are not required for the export or secretion, and your research also demonstrated that secretory proteins are exported at discrete rates, consistent with the existence of specific pathways or mechanisms. And it would be very helpful to me if you could comment on the significance of these findings for the fields of cell and cancer biology.

KO: Right. Well, when we began -- I began to think about this problem, a fellow by the name of George Palade -- Palade was at that time a professor at Yale University and he had won the Nobel Prize. So he worked on secretion. In his Nobel Prize lecture -- what he had done was identify the pathway, you know, all the organelles and things involved in secretion, and for that he won the Nobel Prize. Now, in his Nobel Prize lecture he speculated that carbohydrate groups are put on the proteins to serve as destination markers, kind of as zip codes. And it is the zip code then -- that's what the postal system looks at first and foremost and they'll send

it to North Carolina or Massachusetts based on the zip code. And then once it gets to North Carolina it gets sorted to Raleigh or -- so it's the zip code that determines where things goes and he thought they served as destination markers -- carbohydrates. He said, "Why do you spend all this ATP energy to put carbohydrates on proteins?" And that was his speculation. But since he was such a prominent scientist people over the years began to take what he actually said as speculation to be reality.

So it began -- the dogma then was, when I got here, was that carbohydrate groups are put on the proteins to get them outside the cell, and without those they couldn't get out. That was the dogma. Well, at Harvard and NIH I learned -- just to back up a bit, what I learned was if you're going to do research, identify an important problem. So if you do succeed in solving that problem the world will take notice. Don't just address -- you could do "me too" kind of science that you could certainly get a publication out, you could probably keep an NIH grant, but when you solve it, nobody's going to take notice. You just publish it and you get grants and you make your salary -- but you're just one of the [unintelligible]. But always try to do science that-- I would say -- even "wow" scientists -- they use important -- science that will set you apart from the others as a leader in the field. And I thought that was one of the important problems in cell biology is why are these carbohydrates put on proteins? A lot of energy is spent doing that, it has to have a purpose. And is the purpose to get these proteins outside the cell? I took the exceptions to be -- it was always, even George Palade knew that there are some proteins that can get outside the cell even though they never have carbohydrates on them.

The thinking was, "Well, they once had carbohydrate groups on them and they got cleaved off or something, or they lost them, or the exception doesn't disprove the rule." Well, I thought, you need to account for the exceptions and there are some major exceptions. As a matter of fact, the major protein in your blood is albumin and it has no carbohydrate group. And I cased the literature and it never had carbohydrate groups on it, doesn't even have the groups to put carbohydrate groups on it. So I said, "I think the rule is wrong;" that they are not there for that purpose. So we set out to prove that and we did.

Interviewer: And we are...which lab?

KO: I was in Ira Pastan's lab here at the National Cancer Institute.

Interviewer: Okay.

KO: And I had a probe, I had a chemical that you could treat -- you could take cells in culture and add that chemical, wait 48 hours and you could demonstrate -- you could totally remove carbohydrate groups from certain proteins. And then the question we asked-- we took one protein called fibronectin which was a major cell surface protein you couldn't miss. So we said, "If it's glycosylated, sure we know it's put in the membrane and it functions, but if it's not glycosylated what happens to it?" Well, what we discovered if it's not glycosylated, it's still put in the membrane. But we found less of it in the membrane, and now do you have less of it because it can't transport it, or there's something else going on? And so we demonstrate first and foremost that -- and we took that protein that's put outside the cell -- collagen and collagen could be made -- put outside the cell, and maybe you have a little less of it. But so we proved that you could do that.

Now, we had to come up with an explanation for why there was less. So then what we showed, that it had nothing to do with efficiency of transport. It had to do -- if you took the carbohydrate groups off of a big protein, and carbohydrates are big and bulky, that you expose them to degradation and proteases would come along and chew them up. And that was what was going on; that it wasn't so -- we proved that. We published a paper, and I don't remember the title of the paper but I wrote it and I took it in to give to Ira Pastan and he said -- and we knew we had something here. And he said, "Ken, the title." He said, "Do you believe what you wrote-- the manuscript I just read?" I said, "Yeah." And he said, "Well let's take a bold title like 'Carbohydrate Groups Not Required for Transporter Protein'," -- he said, "What do you say?" I said, "Let's go with it." That's what we went with. So we didn't say, "Study of Secretion of Carbohydrate..." -- we said, "'Carbohydrate Groups Not Required'."

Well, of course we submitted for publication in the best journal in the field at that time and still is, *Cell*. It is published by M.I.T. We submitted it. It got rigorous review, but it was accepted. But we had spent extra months because we knew we were going against the dogma, we had to prove our point because they weren't going to accept it. And in fact, when our paper was about to come out or being reviewed there were other papers in the field by prominent people with just the opposite argument. So our paper got accepted, came out and became a citation [inaudible].

Well, I was going to the cell biology meeting to give the talk on that. There I knew -- and I was giving a platform talk and I knew that room was going to be filled. I knew George Palade would be there. I knew the other people who had published the other paper on collagen would be in that room and I had better be prepared-- and Ira and I worked on slides and the way to say them and our title and he said, "You've got to be emphatic about that." Well I got up there and it was one of my best performances, and I said, "Ken you've got to be good today." And I gave the data and it stood the test. So Palade gets up and everybody gets up and they make their case and every time I could cite studies, I could point that we had done the experiment to discount their objection. And so there is -- the conclusion is carbohydrate groups are not required, and that's the way it turned out. So that really put me on the map. Ira was already on the map, but I wasn't. That put me on the map because it was my work, my thoughts, and that's how -- basically how I got tenure in the [unintelligible], because I did a seminal piece of work.

So it became and it -- there were some more papers that came out, but finally we went on to work on that for a number of years and just to work out what happens -- you get chewed up by proteases and how they ate up different places, but it was solved. And I was a major invited speaker at a major symposium my academy members had organized for a number of years because of that. And then that lead into -- because one of those probes that I used to modulate carbohydrate groups turned out to be an anti-metastatic agent, and that's how it got to that. But that was a powerful study and when I went to Howard, I left NIH and went to Howard and I got in a couple of Chinese post-docs, but US born. Palade postulated that all the proteins are excreted at the same rate as you would if there's no -- if there's nothing controlling it. He said everything is secreted at the same rate. He also -- that was the other thing. He had proposed something called a Bulk Flow Model. In other words, they put 100 folks in the Potomac River in DC and follow it into Maryland and bulk flow is that everything moves at the same rate -- or you hook -- it's kind of like the merry-go-round. You couple all the little cars to a track, a fixed track, and they move at the same rate.

Well I didn't think that was right either. So I did disprove his bulk flow model. That that wasn't right either; that things move in discrete rates. And so what we did was took cells and took probes that could detect ten proteins, not just fibronectins, even though we looked at fibronectins -- 10 or 15 other proteins, and said, "Do they move through the cell at the same rate?" And we proved that they

move at different rates. But there weren't ten different rates, there was three or four different rates. And so maybe some groups were on the same conveyor belt; so there were at least three to four different conveyor belts, and that's what we showed. It wasn't everything was just put on and dumped out at the same rate. And so that again, what it proved was that our specific sequences of -- there are destination things -- or there are markers on proteins that determine the rate at which they're exported. Now, we never found out proof of what those sequence tags are, but we -- that's what we showed and that's stood still. And I'm out of that field now but that still stands and people are now using elegant genetic studies to identify those sequences.

So those are the two things that I am most proud about -- in carbohydrate biology and cell biology, and they stand. And the other one was just our work on metastasis -- as I said we -- so I became visible. I got grants and people knew who I was, and I think that's what you've got to do. So I tell young people, "Don't just do 'me too' science." You can make a living at it but you won't stand out. That's kind of my view about life. I wanted to do -- I said, "What are the important issues? What are" -- and try to identify them and put them on the board. Why do people care about them? And let me solve some of those, and you will know I lived. But if I just get out and go to graduate school and get a degree and get a job, nobody will know. And if I make a difference -- I think -- I want to know I made a difference, other people knew I made a difference and the way to do that is to figure out what is it that we really -- part of the problem that we as a nation face, or people face, and let me solve one or two of those and you will know how I lived. And I will have an impact and I can feel good about going home and I want to make a difference. That's it about me. I just want to make the world a better place, and I think the way to do that is to do your part involving one or two or more problems. And so the world can build on that and go on.

Interviewer: I'm curious about where you feel like you developed that commitment to making a difference. Where did that come from?

KO: Well, it is part of my -- it's my background because I grew up on a dirt farm, a [unintelligible] farm, but apparently people who can grow crops the way my folks did. I grew up in affluent poverty and we -- and poverty can affect people in two ways. It can either -- you can become very materialistic and uncaring, or you can become very caring. And I grew up in an environment that was very caring, and although everybody was poor -- black and white,

it had nothing to do with race -- it had to do with we were uneducated. And we all were impoverished, but the community -- I grew up in a caring community and I cared about the people that I grew up with, my elders. And I realized at a very young age, and that's amazing but I did, that -- and there were obviously blacks and whites who were better off than my folks and my friends and people in my neighborhood, and I realized that the only way that people like me, my friends and family, were going to have a voice was if one of us had to make it and get over there and sit at the table. So I could make sure that -- somebody had to do it, because you cannot -- now, that doesn't mean it happens very quickly, that's true, because certainly a lot of very affluent people have made important contributions.

But I felt that even though they have somebody like me around the table debating, as we did this morning, we were talking about doing another longitudinal study, adult -- of adults. And somebody, "Well, why can't we just use a study from Norway or Germany or some other country -- Canada," arguing, so why don't we just use those studies? Why do we have to?

Well, it turned out I was about to press my button, someone else said it. But the point is there aren't ethnic minorities there as they are here and they would be excluded if you're serious about health disparities you can't use those studies. But somebody else pressed the button and said that. So that was good. But I do think it is something important to have had certain experiences and have developed a commitment to solve those problems and not to become materialistic. So my experiences made me a better person I think and I care about people and maybe I would not have been so caring about people, and the pain and suffering bothers me. And I never forget that; no matter where I am I remember who I used to be and not only where I used to be -- I get a reminder of that often. I just had my family reunion; well I can't go to my family reunion and not remember because there's still a lot of poverty in my family -- most of my brothers and sisters, my nieces and nephews. Now things are changing, but that's good, but still there's a lot of poverty and all the things that go with poverty.

So I see the real world and I don't choose to separate myself from the real world. So it was that -- and when I was just a candidate for the president of the University of Tennessee -- well, the outpouring and compassion and love and -- people were just -- everybody, black and white, just that community -- I put the community on the map. Because what it said, this little community that I grew up in called Parrottsville. People in

Parrottsville -- what this said is somebody from our community can rise to that level, that he can compete for the University of Tennessee job because it wasn't that they were allowing me to progress in the interview process. I was competitive, and the newspapers were saying that, editorials were saying that, and so there was no doubt that somebody from Newport [Parrottsville] -- this can happen. And I was proud of that. But the thing they were most proud of, that I admitted I was from Newport. I was proud of the fact that I was from Parrottsville. And just on our way out my wife and daughter and I were in a car driving and we were about to exit Parrottsville. I stopped to fill up our car and as I was out pumping the gasoline a white fellow pulled out in a truck and he looked and said -- yelled, "Is that you Kenneth?" And I said, "Yes" and so he turns around and he comes back and said -- oh he was so proud, gets out and we talk, and I didn't remember him at all, but he wouldn't have remembered me except he'd seen me in the paper and all the press. But he was so proud and gets out and talks and when I get back in my wife says, "One sure thing, if you want to come back and run for any office in this county, you sure could win," because that was typical of our whole time that we were there two and a half days.

KO: So I learned to care about people. And if there's any legacy of my environment, my upbringing -- early upbringing, it's that. And I'm so proud of my parents, my neighbors, and I'm a product of a neighborhood. Without that I could have been very different.

I would say that many of my African American friends are very materialistic and many of them grew up in -- [break in audio] I mean, my friend the judge he and I are much alike he's -- in one sense not the other [laughs]. But he really wants to make a difference and he's -- everything that he's done had been about making a difference. Not so much about personal -- his image or what kind of car he drives or the house he lives in or money. Although both of us do okay, but the point is it's about making a difference -- its compassion. And I -- of all the things -- and I think that's what happened that came out over and over and over --

Interviewer: During the recognition ceremony?

KO: During the recognition ceremony. I don't care what else came out, that's the thing that I'm most proud of, that I didn't lose my humanity over all these years; that comes first with me. So, you know, you can say that I started the environmental genome project on [unintelligible] that's not what's important. The thing that's

important is the humanity, and that's in this email here. That's what it was about. That's the thing that -- [unintelligible] that separated me from Vince [unintelligible]. And that's good. I don't have to be smarter than he is, but I just want to make sure that what I did -- my parents would be proud of me; that's what counts to me.

Interviewer: I'm sure they would be. As always, I have more questions for you, but I should let you go to lunch.

End of transcript