

**INTERVIEW OF HUBERT DYASI**

**DIRECTOR OF THE WORKSHOP CENTER AT CITY COLLEGE OF NEW YORK**

**APRIL 14/15, 2004**

**By Kathe Jervis**



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## **INTERVIEW OF HUBERT DYASI**

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**By Kathe Jervis**

KJ: This is Kathe Jervis. I'm interviewing Hubert Dyasi, Director of the Workshop Center at City College, for the North Dakota Study Group oral history project. It's a huge honor to be able to do this.

HD: Thank you.

KJ: I propose that we start either of two places, and you choose what you feel like talking about today. What brought you to high school teaching in 1958? What kind of a teacher were you? What drew you to that career? Or, we can start right in with what drew you to the North Dakota Study Group, which probably means what drew you to Lillian Weber's orbit, and to the North Dakota Study Group. It will all lead back and forth to your personal story.

### **CONNECTING TO LILLIAN WEBER AND THE NDSG**

HD: Since this is for the North Dakota Study Group, maybe we ought to start there. First of all, I think it is probably important to say how I got even to know Lillian or how she got to know me. It is a complicated story full of coincidences. Back in the '60s, I was working in West Africa, in Sierra Leone to develop high school teachers of science. This program was run by the University of Illinois, where I got my PhD. But I went to Sierra Leone, actually, just by accident because while I was doing my doctoral studies, I had

promised a fellow doctoral student, Roger Brown, that after I completed my degree I would join him in Sierra Leone where he had established a science curriculum development center. So after I finished my degree, which was about 18 months after Roger had gone to Sierra Leone, I decided I'd honor that promise, and that's how I got there. But even before I went to Sierra Leone, I was involved with the Education Development Center [EDC] which was first started at MIT by Jerrold Zacharias. He had started a new science project for high school called PSSC Physics with funds from the National Science Foundation. Now, he had been pushing the National Science Foundation for this high school science project back in the early '50s.

KJ: Before Sputnik?

HD: Before Sputnik. He had continually said that American science education and science, in general, was far behind the Soviet Union. So by the time Sputnik came up in 1957, people said, "Oh! After all, Zacharias is right!" What Zacharias began became an independent, non-profit educational organization under the name of Education Development Center (EDC) [see <https://www.edc.org/about>]. EDC established a program called "Elementary Science Study," which was science for elementary schools. It was through that organization that Zacharias wanted to start a program in Africa. And that program actually, I should say, came about because Zacharias attended a conference in Israel in 1960 that brought educators and scientists and people from what, at that time, were newly independent African countries to talk about the future of science and technology in those countries. Solomon Caulker was there. He was a philosopher, a

reverend, who taught at the University of Sierra Leone. He talked in plenary sessions, urging people not to focus on technology, but to focus on science as a way of developing or changing people's world view about the physical and manmade world. It was a stirring presentation. He and Zacharias got to talk quite a lot. Unfortunately, this man, called Reverend Solomon Caulker, was on his way back from Israel, when his plane crashed, and he died on that plane. When the news flash reached Heathrow Airport, in London, Zacharias was actually there and knew Solomon Caulker was on that flight. His newly found friend was dead. So Zacharias came back to America determined to start something in Africa, at least in part to honor the memory of Solomon Caulker, but also in part because he saw the merit of his new friend's ideas. That was the start of the program in Africa. It really was directed by Africans. Zacharias used this program as a means of getting the United States, and other European countries, to support that effort.

The center in Sierra Leone, started by my friend, Dr. Roger Brown, was partly funded by placing a staff member there paid for by Education Development Center. Now, that did not happen, actually, until I got there in 1966, but I knew Education Development Center and the people there, especially James Aldrich (Head of the African Education Program), Ralph Robins (Program Administrator), and Robert Carlisle (Director of the African Primary Science Program)] so when Roger Brown and I talked about them supporting a science educator at University of Sierra Leone, Aldrich, Robins, and Carlisle agreed.

Now, here's where the connection with Lillian comes about, the first connection, that is. Lillian's work, the films and the work that she did with young children, was adopted by Education Development Center, and they published those films, under their label. They had a very active early childhood component in their education programs. So Lillian was involved in Education Development Center in that way. And also because of that, and also because Lillian, of course, was always reading, she got to know about this African science program, which was called "African Primary Science Program." Now, when I got to Sierra Leone, I worked on the program to develop high school science teachers. But very soon we knew that was not going to succeed very much unless we started with the primary schools, or elementary schools. So we started a component there, a strong component of elementary or primary education, including professional development of teachers. So we worked with teachers colleges, and we worked with the various ministries of education, and with the schools – as well, of course, as with the high schools. But at the same time, I needed staff, and there wasn't enough money to get staff, so we decided to go to the Peace Corps to get some people. And that's how we got Stan Chu. He was placed at our Center doing the in-service professional development component at the Center and working with teachers around the country. So then Stan came back and started teaching in New York after his tour of duty in the Peace Corps ended. This must have been about 1969 or '70. He taught at the St. Thomas Choir School.

KJ: With Gordon Clem?

HD: With Gordon. (laughter) That's right. So anyway, somehow – I'm not sure about the details. Stan could tell you the details. He got in touch with Lillian, and all of that, and of course, Lillian knew about African Primary Science Program. But also Lillian had wanted to get one of my Science Education Program for Africa staff members to come and to work with her here, in New York City, a fellow called Mike Savage. But Mike was in England at that time, and we were doing the program in Ghana, so he told me he wanted to come to New York – well, that Lillian wanted him to come and all of that, and so on. But he felt that he needed to do work in Africa. Mike Savage had been involved in the development of the African Primary Science Program curriculum materials, which are still excellent today. In fact, over 80 to 90% of those materials have his name, as well as other people's, but he was the kind of engine behind the whole thing, and a link to Lillian.

So I used to come to the United States in those days – in the late '60s and early '70s – mainly to raise money from the State Department for the African Science Program, which was now called the Science Education Program of Africa. When I came back to the States, of course, I used to come to New York and visit Stan Chu and his wife Linda. That's how I got to know about Lillian Weber. Stan was doing some workshops there, with Celia Houghton in Connecticut.

KJ: Celia was working for the Sacred Heart schools, I understand at that point, which must have been connected to St. Thomas Choir School and Gordon Clem.

HD: Yeah, I don't know the details of that one. But what I do know is that Stan got into the orbit of Lillian's work, and actually worked, as you know, as one of the advisors at the

Workshop Center at that time. So I used to come to the Workshop Center, and that's how I met Lillian, face-to-face. So we would just discuss things, and she would tell me about the Workshop Center and what was going on and ask about our own work. So she knew about our work and had our materials, and so I got to know what she was doing. That's when I met some of the advisors; I met people like Wilma Heckler at that time.

KJ: When does Eleanor Duckworth enter the story? She was the evaluator, wasn't she, for the African Primary Science Program?

HD: Eleanor Duckworth was an evaluator for the African Primary Science Program. I'd already met Eleanor Duckworth by the time I'd met Lillian Weber. I knew of Eleanor when she worked at EDC with Elementary Science Study (ESS) together with David Hawkins. So I knew both of them. David Hawkins and I and a few other people later worked in Tanzania for about six weeks in 1969. Eleanor came to join us as an evaluator.

#### **AFRICAN SCIENCE EDUCATION, LANGUAGE DEVELOPMENT, AND THE NDSG**

KJ: What was the burning issue for these science educators in Africa?

HD: For Africa, the main thing was....there were no syllabuses. I should use that instead of "syllabi." There were no syllabuses in science that were relevant to the African situation. Practically all African countries were using European syllabuses, including even specific examples of living things in Europe, or the weather in England because it was the same syllabus for European or English students. So after independence, the African countries

said, "Look, this cannot go on. We need to make this relevant to our own lives and to the children. Look at all the local natural resources which we can use."

KJ: So what happened?

HD: Of course, there was the question of "how are we going to do what is necessary?" So three main things came up. One, was the articulation of the kind of science that we wanted to do. Zacharias and the Africans who worked with him were very, very valuable. Remember we talked about Reverend Solomon Caulker who said we don't want to train technicians all the time. We want people who can actually reason in scientific ways, who can go into science and learn it authentically using our own environment. In fact, the Elementary Science Study was developed more or less as a forerunner of what Zacharias wanted to do in Africa. So the Africa Primary Science Program, although developed by Africans, more or less mirrored the Elementary Science Study. So well, the first thing, then, was to articulate what kind of science we wanted to do. And then secondly, to embody that in curriculum materials that could be used in African schools. And the third element was to develop human resources to bring this about, curriculum developers and teachers and so on. So those were the three major components.

KJ: So by the time you got to the Workshop Center, you and Lillian had worked out a lot of these ideas?

HD: These ideas were very, very similar to what Lillian was talking about. The focus, of course, was on human development. For us in Africa, science was only a vehicle for doing that, and there were other people who were doing it in mathematics. But it was to



develop young children, build on their capacities and strengths, and in following

Reverend Caulker's own ideas, restore respect in the Africans themselves that they can do things on their own, that they can develop science based on what they have and all of that, instead of just importing ideas and examples from Europe.

KJ: We're getting to the North Dakota Study Group. You have to get to New York first, and you have to get to the North Dakota Study Group, right?

HD: I used to come to New York always when I came to the United States, and I visited the Workshop Center. Then, beginning in '79, I participated in some of the conferences run by the Department of Elementary Education here at City College. They were run by Vivian Windley and Weber and Oliver Patterson and those people. Miriam Dorn. So I was pretty familiar with them, and I used to come and participate in their summer institutes – before I even came to the Workshop Center. On one occasion, I was here in the winter maybe 1978 and Lillian said to me, "Look, there's this fellow. I'm sure he would like to talk to you, and maybe he can ask you to go to one of his meetings." I said, "Who's this fellow?" She said, "It's Vito Perrone," and gave me the number, because obviously, she had already talked to Vito Perrone. So I called Vito, and I asked him about what the North Dakota Study Group was all about, and that Lillian is insisting that I should call him and visit, and so on. Yeah, Vito then told me about how it started and said he would love for me to go to the NDSG meeting that very trip. I don't remember what year it was. Because I know I was just visiting, so I was still working in Africa, and I worked there, full time, up to 1978, so it must have been one of those years. At that time of Vito's

invitation I had a meeting to conduct in Ethiopia a week after the North Dakota Study Group that year. It was winter, so when I realized what might happen, and I was going to go to North Dakota, and it could be snowing and all of that, I thought, "Look, if I go I could miss my meeting I had called in Africa and the people were coming from all over Africa, and it was way on the east side of Africa, in Ethiopia. So I regretfully, but firmly, declined Vito's invitation. So I did not go to the North Dakota Study Group that time. But I kept in touch, of course, with Lillian, through Stan Chu, and we exchanged work and readings. Then, I came to work in America — that's when I brought my family, in '78. So that was the first time we're staying here full time. I was working at the University of Illinois at that time. I had taken a full time appointment there and I was still connected with the African Science Program. That was the first time I came to New York City to do some workshops and the summer institute. But I did not go to the North Dakota Study Group. I suppose, I think, actually, because I was teaching classes at the University of Illinois, and I couldn't go. Very often those universities like the University of Illinois do not observe President's Day similar holidays. They don't recognize any of them. I was working, and so I never went to the North Dakota Study Group until I came to City College in October of '84 to work full time. And the first time I went to the North Dakota Study Group was in '85. That's when I went with Lillian and some other people from here. That was the first time I met Vito after I talked to him several years before.

KJ: Do you remember your impressions of that first meeting?

HD: Yeah, I do. I thought it was very, very stimulating. It was just such a big community, and very intense. I remember there were speeches, presentations by Pat Carini, and there was a panel of Teacher's Voices. I can't remember which teachers were presenting at that time. There was at the beginning that open session, where people talked about what's going on. I was just amazed about all that was going on in very different places! And I didn't know about most of these people. But I knew George Hein, and he was there. I did not know Ken Haskins. That's the first time I met him. So it was a very, very intense thing. In my naiveté, I thought, and I think I mentioned this to Pat Carini, that, you know, one of the things that is necessary, is to continue the links during the year among all these people who were here, so that when we come back the next year, there'd be some specific activities that would have been carried out, taking off from what was discussed. Now, I say my "naiveté" because I didn't realize just how much work was involved in doing that. I was mostly concerned about keeping the momentum, so people don't go back to their regular things and get swallowed by that, and forget about what I thought were very good ideas on children's learning. But of course, I did not know the details. That, in fact, people do not forget what was discussed because their own work was involved in doing that very type of thing. So, instead of a formal continuation or a formal agreement that this is what we're going to do between now and such-and-such a time, so that we're ready to come back again, this was people's regular work.

KJ: And you gave a presentation at that meeting.

HD: No, no – did I? Yeah, I probably did.

KJ: It is on the agenda that year as “Works in Progress” with Maya Apelman.

HD: Yeah, yes, yes.

KJ: Now, had you known Maya?

HD: No, I did not know Maya. That was the first time I met Maya.

KJ: Those were the days, in the history of the group, when Wingspread insisted on advance program plans. And Vito never had a plan. You might write Vito about an idea you’d had, and he’d say, “Yeah, okay” and you would arrive and open up the formal agenda and you would be on it with that idea.

HD: Maya Apelman knew I’d worked with David Hawkins. And she knew David Hawkins, and I knew David very well. So it was not as though it was a totally new thing. It was new in terms of meeting a face-to-face, but she was aware of my work, and I was aware of what she and David were doing.

KJ: That pairing was how Vito organized. All of your early presentations in the mid and late ’80’s were about science, one right after the other. And then the group shifted, and your role shifted. And I would love to hear about that. Say more about your participation in the meetings because you went every year. ’85, ’86, ’87. I didn’t go in 1988, but you were doing something on tooth fairies and this history of science.

HD: Oh, yeah, yeah.

KJ: And you did a workshop on science with popcorn in 1989.

HD: Oh, well, that's great. I'd forgotten those things, myself. (Laughter) That's very good you have a record of all of these. I didn't know.

KJ: So your role with the group looks to me – on the basis of the evidence from the agendas – is that it was all about science.

HD: Yeah, but remember where I come from, in relation to science. I said in the African Primary Science Program, the idea was not science; rather the idea was children's development, and we were using science because we thought that was one medium that could help in the development of children. So my presentations at the North Dakota Study Group — or at any other place for that matter — were always on how to use science as a vehicle for children's growth and development. Now, this was intellectual growth, social growth, and all of that. I chose science because that was the school subject with which I was most familiar, and that's where most of my work had been done.

Now, here's something important to note. When Lillian started the Workshop Center, the focus was largely language development. Now, what was language development? Language development was part of human growth. And so what Lillian always said was before they even came to school, children knew a lot about their world, their ordinary world, of physical experiences. And we all know that as parents. Usually parents know kids know a lot just from being around their kids; kids are just not literate about it in the sense of reading and writing about it. But they can talk; they can carry out very good conversations. And they know how to investigate. How to explore in childhood ways. Now, the important thing about it is, that's also the roots of science. From the work

we did in Africa, we knew, for example that children knew a lot about their physical world in Africa. In fact, there were certain natural things that they knew more than adults knew. For example, there's an organism called an ant lion, and there was a module developed on that. Most, in fact, practically all of that information came from children. And when asked about the ant lion, adults knew very little. If you went to science books you might find maybe one or two lines, if you were lucky. But children played outside of schools with ant lions, just as though they were little toys. So the local environment as a source for learning and building on what children know in interactions with it was very important for us in the learning of science. For language to develop you have to have substance to talk about, to communicate. In science inquiry, you have to have substance, I mean, physical substance, and something you know about that physical substance in order to be able to talk about it and to do your inquiries. I've tried to make clear the common roots of inquiry-based science, active learning in science and language development. They have a common root.

There was something else that had happened that speaks to this commonality. Lillian had already written a paper on "But Is It Science?" Now, for me, that was an education in the sense that here's somebody who's coming from children's interactions with nature, with things of nature, and talking about is it science?

KJ: Was this rhetorical on Lillian's part? Was she really asking the question about the natural world?

HD: No, no, no! It was rhetorical. Interacting with the natural world is science, and it is also not science. It is science in the sense that it's using the things of nature that science deals with. And it is science in the sense that the way the child interacts with those things is essentially similar to what scientists do when they are doing inquiry into something they're familiar with, but they don't really know. That's why I say, if you answer that question, it is science, and yet, it is not. It is not in the sense that it does not have these trimmings of science, like the formulation in models and formulas and all equations and all of that. That's the point she was clarifying. But nevertheless, that does not diminish it as a science component.

KJ: Did you find the North Dakota Study Group a congenial place for those ideas?

HD: Oh, yeah, that was the main point of the North Dakota Study Group. The focus was on children's learning, and on children's development, and on children's growth – whether it was on an individual basis or on a social basis and so on. Remember at the time that I was there, I guess, practically at the beginning, Pat Carini was doing a lot of work on children – observations and all of that – and she had also done some work actually already on the archives. And she had been kind enough to send me some of the slides when I was at the University of Illinois of children's artwork which related to things that were out there, in nature. So it was right at the heart of it – what we had been doing in Africa and what I had come through and believed in and had practiced and implemented enough was not really different from what the North Dakota Study Group was doing. So it was very

congenial in that sense. Then, I asked, I think, I was talking to Stan Chu, because I didn't understand most of the intricacies of what was going on.

KJ: At the North Dakota Study Group?

**SHIFT IN THE NDSG: RACE AND IMMIGRANT RIGHTS**

HD: At the North Dakota Study Group. It struck me that there were not very many minority people. In fact, very few. And some of them, including some of my colleagues at City College, would go once, and then disappear and then maybe go back again and disappear. But that was not paramount in my mind. What was paramount was my learning about what people were doing when they were talking about children's learning. So that was very good. It was helpful that Ken Haskins [Principal of Morgan Community School, and later co-director of the Principals Center of the Graduate School of Education at Harvard University] was at the meeting practically every year during those days. So it was very congenial. I wasn't looking for so much social congeniality, if you put it that way, or culture in a narrower sense of culture congeniality. I was just pretty much focused at what was going on with children's learning and development.

KJ: There were a lot of years you didn't go. At least, you weren't listed on the roster, though sometimes I wonder if you came at the last minute, because people begged.

HD: There are a very few times I didn't go. The times I didn't go were in – as far as I remember – were in Illinois at Resurrection Center.



KJ: In 1989, race became more of an open issue. I was not at that meeting with Lisa Delpit.

You were. That was the year at Wingspread that you gave your last science presentation...the one on popcorn. And do you have recollections? That year was big sea change.

HD: I think it was different because Lisa Delpit was not in any way like Ken Haskins. I think what Lisa Delpit generated was – at least I think among the Blacks and so on – a feeling that ...there is the tendency to operate from the liberal or progressive education perspective, without looking first of all at the actual needs and wishes of the people you are going to be dealing with. I think that essentially that was the main thing she was talking about.

KJ: That's what she was talking about then and she was writing about it.

HD: I understood what she was talking about from my dealing with African and Latino communities here in New York, because they didn't want to hear anything about inquiry or anything like that. They just wanted straightforward – what shall I call it, expository type of education. And I understood where they were coming from. As a matter of fact, I even used to tell some of them that, "Look, I know in Africa, we went through that stage." In fact, I used to read people a quotation from someone, a very highly educated person from a French speaking country, back in the '50s. 1953. Franco-phone Africans could serve or be members of the assembly in France, because after all, the countries were regarded by France as their provinces of France. So they could be elected, and some of them were elected, and they served there. But this fellow stood up and said in this whole

assembly – okay. Let me back up a little bit. France was saying, “Look, we have to Africanize the education we’re providing in Africa.” After all, the English-speaking African countries, you know, we’ve been fighting for independence. They have not got independence yet. One of the things they were talking about was curriculum. Everything was European. This fellow stood up and said, “Look, we want a curriculum just like what the French have. Because we are as French as the French of the Metropole.” They would have nothing to do with anything that’s different. Now, when I came here, and I heard people talk and so on, I said, “This is understandable to me,” because anything that’s different from what the majority or the dominant group is talking about is bound to look like discrimination, because it’s something that is being given to you, so you don’t have what the other people have. So I understood, but Lisa Delpit was not talking about that. She was talking about – in fact, almost the opposite of that. In the sense that you haven’t checked with what those people are looking for and the conditions in which they find themselves. Only when you have done that, then I think you can begin to see how progressive education can deal with that situation.

KJ: Well, you clearly made sense of all of that. I gather that the audience was not as receptive to her.

HD: Well, no, because they had not heard anybody who’d spoken just directly like that. That’s why I say, this was a big change from Ken Haskins. Ken Haskins said more or less the same things, but he was so subtle and so diplomatic, that people did not get it.

KJ: He was pretty clear. I remember him one year giving the plenary session on Sunday morning and saying, “You know if this had been a Black meeting, we would have had twice as big portions of food and we would have had singing.”

HD: Oh, but that was his last meeting.

KJ: But because your science ideas were so congenial, it never occurred – well, I don’t mean it never occurred – but you did not feel compelled to bring the issues forward that Ken Haskins and Lisa Delpit were bringing?

HD: No. I did not know how people felt privately, as persons. And I didn’t want to go there. (Laughter). I just wasn’t going to go there, because I knew how I felt about things. And if I went there, I may never go back again, because I don’t know what I’m going to find from people.

KJ: So it was very much science, and more science – there was a lot of science in those agendas.

HD: But science as what? Science – and I think this important - -science as a medium for developing children.

KJ: Okay, and that clearly was the focus of the group.

HD: Because if it was science, from a scientist’s point of view, that had no place there.

KJ: Okay. There were people who stood up and said, “This group never does anything; it’s not political enough.” If you look at the agendas, they look very much like a study group.

HD: Well, it was a study group. And I don’t know how this more activist agenda got to Vito.

Vito was involved in a number of other significant things outside the North Dakota Study

Group that impacted on the issue that people like Lisa Delpit were talking about. But not from an educational view. But from a democracy stance, you see? Oh, what shall I say? But you also know that Vito was involved in the National Council of Advocates for Children, a group that was involved in the rights of immigrant children. And in a way, that's not different from the NDSG educators who were involved in the rights of children to be children in school. But this group was more political about the rights of immigrant children and were, in terms of ethnic and professional spheres, very different from the founding members of North Dakota Study Group. There were lots of Latinos; there were some Blacks. Richard Gray was in that group. These were highly educated people, you know, mostly attorneys. But it was a mix of Anglo or Caucasian Americans, and Latinos and Blacks, and so Vito knew them, and he was very much aware of how things were different in those communities from what we were talking about in the North Dakota Study Group. So, given that, I got the impression he was usually looking for people to more or less come with an unusual or slightly different slant to things. So that's how he would bring people like Donald Moore, who used to work in the teacher's struggle there. And in a different sense, that's how he even brought Greg Anrig, the head of Educational Testing Service [ETS].

KJ: Greg Anrig's support for standardized testing couldn't have been more different from the NDSG.

HD: Yes. So Vito was doing things like that, and I suppose, not so much to stir up the pot, but to expand the horizons of that group.

KJ: And he brought Ron Edmunds, a Black educator who promoted Effective Schools featuring basic skills.

HD: He brought Ron Edmunds. So what I'm thinking about is, when things became unsettled, in a nice way of unsettled, that was when he'd say, "Look, we probably need a different mix of people to come in here." And that's the idea, as I recall. And then that's how later, you got young people who did not necessarily have the history of the North Dakota Study Group, but who were free to talk. I might be distorting this because of selective memory or whatever, but in my mind, that's when there started to be discomfort. I remember Debbie Meier, for one thing, talking about why she goes to the North Dakota Study Group. And maybe not in so many words, she said it was because that was kind of a safe haven to get away from these nasty discomfoting situations of inequalities. So she thought she had this one weekend in the year where she could get away, just get away from all that and just be with people who think like her, and who enjoy being with one another. That's how I understood what she was saying. And maybe a lot of other people were saying the same thing, but they were just not speaking up at that time.

KJ: And the group did change, then?

HD: The group did change. And I think it changed largely because Vito was actually looking for change. He's the one who was getting these people to come; he would impress on people to bring some other different kinds of people. I don't know if you were there, but in 1988, the Teacher's Voices panel was from New York, and it was people who had worked with me at the Workshop Center. There was no White teacher on that panel.

They were either Latino or Black. They didn't cause any waves; they just reported and talked about their work, and they were a big hit.

KJ: And then the next year Vito invited Lisa Delpit?

HD: Yes.

KJ: And then in 1990-1992, there were so many people and the space at Resurrection Center in Illinois couldn't accommodate the growth. There was a feeling that if you had been coming a long time, you should give up your slot.

HD: There were too many people. Yes. In fact, people were asked if they could give up their seat.

KJ: So I did that. I was a good citizen and didn't go every year. But it seems to me that some of those early '90 years were thought to be very tumultuous. I don't have any evidence.

HD: Oh, yeah. No, they were very tumultuous, because there were young people and they were saying, "Look, why do we come here just to listen." — they didn't say what I'm going to say — "to listen to these old people?" But that was the message, like, if you really believe in what you're talking about, we ought to be pretty prominent, too. Because you are talking about giving avenues to children to grow and to develop, and here we are young, and when we start talking, things quote unquote "fall apart."

KJ: And there was some senior person who reportedly said, "I won't come to one more meeting and hear these young whipper-snappers who haven't been doing the work we

have for 40 years, and listen to them talk about how bad we are at doing the work of the world.” It was very hard.

HD: That’s right. It was very hard. And that’s when, actually, that’s when this business of having planning meetings started, because I remember I went to one of the first meetings when somebody said, “Okay, you’re talking too much; why don’t you do something instead of coming here to complain?” So young people had a chance to join this planning group and plan a program.

KJ: And then, I think Pat Carini was a big voice and Dirk Roosevelt. We went back to being more of a study group; we had story telling; home groups became important. Where I’m headed is that you moved through those ’90s years to become someone who was doing the closing remarks.

HD: Yeah, I don’t remember when I was asked to do that. Actually, it was not too long ago.

KJ: In 2001, you did the closing; you did it in 2002.

HD: That’s why I said I know it’s not long ago. So I moved to that. But there was a transition, though, when there was this young group I said I would be involved in the planning, so I went to some of the planning meetings. I remember there was one – in fact, yeah, there were two. There was one in New York and another in Boston. I think it was the very first North Dakota Study Group that involved these young people in planning. Richard Gray was there, and that’s when he really began to play a pretty big role. I remember saying to the group, “Now I’m glad you guys are here, and you are young, and you’re going to be pushing me. I’m going to move a little back. I don’t want to be very much in to this. I’ve

been doing these workshops, science workshops, too many times.” So I stopped giving workshops. Other people did continue to offer workshops.

KJ: The Works in Progress?

HD: Yes it was Works in Progress. For example, Eleanor Duckworth would do something with some people, and somebody offered something else. People just signed up for workshops.

KJ: Someone would just put a sign up and make a formal group on the spur of the moment.

HD: Yes, that’s right. But the people who were going to give the presentations knew beforehand because it would be the program. So I thought that would be the time to make these kinds of presentations – not to the whole group, but to the smaller group, and I think maybe I did once or twice.

KJ: You did one on “Meeting the World.”

HD: Did I?

KJ: You did that in 2002. It must have been what you were thinking about then for your publications.

HD: Or, I might have been asked already to do something. So I think it was already written. Yeah, I would do those smaller presentations. Quite frankly, what was happening, let’s see, to me, especially in the ’90s, beginning around 1990 or so, was that I had gotten involved so much with big National Science Foundation grants, and I really did not think I had time to think about making presentations. The kinds of presentations I was making were more to the science education profession, more to the science teachers association, or to AAAS [American Association for the Advancement of Science], which were big



presentations of one hour or maybe two hours in the case of NSTA [National Science Teachers Association]. And those were straightforward professional development activities in the sciences. So the focus moved, on my part, from just working with children to now enabling teachers to work with children in this way. So I felt – I remember this very clearly – I felt that, “You know, this is really not the best thing for me to do,” to be presenting at the North Dakota Study Group because the teachers there are actually beyond the professional presentations I was giving in the science education world. It was not because they told me anything, but this was just my projection, that this work I was doing was more in the education of teachers. And these teachers at North Dakota Study Group really didn’t need that education.

KJ: And they had learned what you already had to offer?

HD: They’d had already learned it.

KJ: I don’t want to leave the North Dakota Study Group yet because I want to say something now that the time line is sort of anchored. I was struck by the fact that in your very complete vitae, you did not list the North Dakota Study Group in any way. Everybody I know does. I put in my resume.

HD: Oh? I prepared that resume for City College. It was not my regular resume. I wrote a regular resume that I send to people. You see, the City College resume is more, for me, more science education, because that’s what they want. I used to put it in the memberships.

KJ: When you began to do the closing remarks, you clearly became a very central member of the group – not that you always weren't – but you took a new role. I remember in 1995 when you and I were in the same home group and doing a close read of The Souls of Black Folks, and you sat outside the circle of chairs and leaned on the couch and didn't join the circle. And I was wondering what kind of feelings did all of this bring up for you? This was before you began to do the closings; this is in a transition point. As you saw the group changing it may have changed in a way that was significant to you.

HD: I don't know if what I'm going to say relates specifically to the incident you mentioned. But I know, and I wondered if people were really acutely aware of this. I know from my time, my days and struggles in South Africa, and also my connections with the civil rights movements in this country, especially at the universities and so on. We used to travel from university to university. What it is that I know is that people – let me just say this – that White people who are closest to the Black people were the ones who always got the brunt of whatever baggage it is that Black people were carrying as a result of oppression or inequality. That's why I say I wondered if people knew that. And it was coming out in the North Dakota Study Group. For me, it was easy, as I say, to understand and even to explain it, because I knew exactly what was going on, because I'd gone through the same kind of thing. You get so frustrated because you can't reach the real people you want to tell this to, and you want to abuse – if you may use that word – and so who gets to be the target, the unintended target or half-intended target? Is the people who have the connection to that group, even if it's just by color. And that's all.

And they're definitely against everything that other group stands for. Now, that happens, by the way, in just about every movement. I'm just talking about the ones that I was involved with. When I would sit – if I sat outside of the circle, I would be watching all of this going on and people really getting to tear at each other. Tear at one another. My question always was, "Who is going to be the family member? Who's going to say, "Look, okay. We're all still a family, and now we've got to deal with ourselves; we're quarreling like any healthy family; we got to deal with ourselves so we don't become a dysfunctional family." I had a feeling that we never reached that point in the North Dakota Study Group.

KJ: Once a year, very hard to do.

HD: It's very hard to do.

KJ: Especially when the people of color tended not to be consistent members over the years and make those permanent connections.

HD: Yeah, the participants would change. We would still get a good representation, but it will be different people. Now, there are two ways of looking at that. I'm thinking in particular about just one Black fellow who was there from Massachusetts, who went there while we used to go to Wingspread, and never went back again. Maybe he did one more time, but never went back again. I meet him now and again when I go to Cambridge. But I think of someone like him. "Look, I don't want to be part of this" you know? "I've been involved – I'm making this up, like he's saying, "I've been involved in enough of these quarrels and squabbles; I just don't want to be part of it."

KJ: Lisa Delpit taught me that. I was on an Urban Sites board with her, so I sat with her for three days, three times a year, and she's just would say, "Oh! It's like Heinz 57. You tell these White people 57 times and you have to tell them again and again, and they don't get it or they forget it, or they don't retain it." And I'm sure there are Blacks who just didn't need this kind of NDSG discussion in their life.

HD: Yeah, but I'm talking to you and about Black people who would say, "Look, I don't need this."

KJ: Right. That's what I mean. Black people who think, "I don't need to listen to White people."

HD: No, what they are saying is: "I don't need to listen to anybody – Black or White – bringing this kind of thing up." That's the point I'm making. The people I'm talking about were Black who said they wouldn't go there. It's not because they don't want to listen to this from White people. They don't want to be involved in it or to be even a witness at the fight. They'd say, "No. I've had this. It hasn't taken us anywhere productive, so I don't want to be a part of it." The fights, I mean.

KJ: The group persisted, and we have these new separate affinity groups.

HD: Oh, yeah. Yeah, that's what they're called.

KJ: Participants self-identify. But I don't find it very interesting to talk to other White people about their feelings about racism with no one else in the room with any widely different experience.

HD: Let me tell you something that really puzzled me, and I explained it to myself as just a cultural difference. A very deep cultural difference, between me as an African and everybody else! (Laughter) The very first time this business of race came up, and that was before the affinity groups or anything. There was a session...I think the agenda was changed to include the session where people would talk about their experiences of racism. Now, to me, you know ... that's just ... that was just too much. You don't ...when you are with friends, you don't take such a frontal attack on an issue, unless you are going to be together for a long time and really hash it out. You see, that's the difference. So I say it is a very deep cultural difference. In our culture, you don't open up a very serious subject if you just have a weekend. You open it up because you know you can carry this to a point where when you go your different ways, the misunderstandings that have arisen in that conversation have really been dealt with, so that when you leave, you are all at a good point and being ready to start again when you next meet.

KJ: But I'm thinking that is where we started this conversation today. When you went to the North Dakota Study Group, you thought, "Oh, you have to make formal plans to carry things out over the entire year." And you said you didn't realize that people carried a seed through their whole year.

HD: Yeah, that's right. Because I looked at it on the surface, you know? Like we're here for this weekend.

KJ: That's right. But I wonder – and I can't speak for anyone else – I'm just saying this for me, but the seeds of an important conversation last all year long, even though it's difficult and not resolved.

HD: No, but I said I realized that the conversation goes on throughout the year because people are involved in this very thing we're talking about in their daily work. But not the racial issues we are talking about. No. No. Because when the White people leave that place, if they're involved in racist oriented or race-based kinds of conversations, they are not playing the same role that they played in the North Dakota Study Group.

KJ: And that is true.

HD: Yeah, they are fighting over there, and then they come over here, they are the culprits– do you see what I'm talking about?

KJ: I do. And I still think there are probably some openings....

HD: Oh, I'm not saying that there are no openings. I'm just saying if there are avenues for this thing to go on, that's fine. I'm saying culturally, in my cultural background, the moment you leave from there before you have reached a certain point of comfort, the chances of coming together again just plummet.

KJ: And that makes sense, and certainly the evidence is that we don't have a very good history in the group of keeping people of color involved. Yet, your roots must have been deep enough, early on from 1985, that you were willing to come back and stick with it and to address very hard questions in those closings.

HD: No. How am I going to say this? There are two things I've mentioned. One is that I saw the group as a professional group, from the beginning, because that's how I was introduced to it; that's how I was introduced to it by Lillian Weber— more than a social action group. If there was social action, it was in relation to this issue of race or equity. Now, I knew I was involved in that issue to capitalize on my own professional background to see how I can use that background and bring it to bear on the issue of giving young children in school a wholesome development. A wholesome development for some people also includes equity. It does for me, too, but remember where I'm coming from. We said in Africa one way to bring about equity is to make science accessible to these Black faces and Black children, meaning African children. That was my thing. So with educators I don't care who's there — Black or White — I want them to understand that they can do it! Okay? Now, if they don't like it, they don't like it. But I'm not asking them to love me, or anything. I'm just saying, you're talking about children's development; you're talking about the universality of capacity that it is not dependent on ethnicity or geography or gender — fine! Here is one way you can actually demonstrate it, if you are using science. That's where I was coming from. Now, I also came from my personal background. I came from dealing with two kinds of White people in South Africa. There was the kind who would make no bones about it, that they despised Black people; they didn't want to mix with them; they didn't want to share anything with them. Then there were those who did not say that, but instead would talk about what a shame it

is that there are some people who think that way. Now, if you want to know as we grew up in South Africa we preferred the first kind.

KJ: You knew where you stood?

HD: Not only know where you stood, but you also knew you could talk to them. You were on opposite sides of an important subject. As long as you both knew that, you knew that the other person is not ever going to convert you to their side; they are trying to show you where they are. And you're trying to show them why you are where you are and that's where you would like them to be too. Now, it's annoying in the worst way when you're involved in that situation, but one thing, as long as they are talking to you, it is not demeaning. That was the crucial thing. Somebody who avoids talking about a subject, you don't know where they are. You don't know whether they don't want to talk to you about it because it's too painful for them, or they're ashamed, or whatever, for whatever reason, or because they feel you will never understand it anyway, so what's the point, so let's gloss over it. So you never know what's going on. That's more difficult to handle.

KJ: I think that the North Dakota Study Group has a range of different kinds of discomfort and people with a range of different experiences.

HD: That's right, but you see, what I'm saying is...if I went to the North Dakota Study Group and started with the assumption that these people have no basic respect for Black people and will go along with me, but in fact, they don't mean anything they say, then it doesn't matter to me what they say, because it just simply fits into whatever I believed before. At least, they allow me to do that. That's one thing. But if I start with the assumption that



they really are on my side; that they believe in these things they are talking about, the same things that I believe in – but somehow, it just doesn't come out that way when they say or do something, I have to wonder where I stand. At one time, some years ago I remember thinking how racist a long-time NDSG member's remarks were; how racist his physical gestures seemed to me. I remember talking with someone about his presentation and I said okay, to whom has this long-time White NDSG member been talking all his life? (Laughter) He's been talking to people; he's been fighting against politicians on the far right; he developed his language in that context; he developed these mannerisms in fighting these rightist politicians. Now, he is here with us at the NDSG – do you expect him to just simply get rid of those gestures? He doesn't even know he has those gestures and all of those mannerisms! They are part of his strategy for dealing with the situation that he was in. Maybe he was discriminated against himself for his political ideas or his religion or whatever, and he developed his way of handling that problem. And I say, now, at his age, do you think he's just miraculously going to be a different person, physically? I said, forget it! I thought about what I might do, if I felt I could talk to him. I would go to him. I'd say, "You know what, I know you believe what you are saying, but you know, your body is talking a different language." If I told him that, I've got to make sure I have the longest possible time for continued conversations with him, because there is a danger: if I'm really not believing in that. Here is the danger. He's going to say, "Gee, I didn't know that. Now, that I know I need help in that respect – how can I get that help, and how long is it going to take?" Now, if I cannot be constructive and stay with him on that,

forget it! I will be simply the most cruel person to him. You see, I'm coming back to this business of these weekends.

KJ: I think that's right. I remember when a person of color went down a list and said about that presentation and others that weekend, "Here's all the racist things I saw." They were very hurtful things towards long-time members. This is all very complicated.

HD: Let me tell you a little story. When I went to South Africa in '97, I was one of the keynote speakers at a scientific conference. I gave the speech in the morning in a large auditorium. Later that day after dinner, I cornered one White scientist and said "I'm just curious – how did you like my presentation this morning?" He said, "Oh, it was just fine." I said, "I know you mean that, but how about the way I gave it – never mind the substance of it." He says, "Oh, I will tell you. You know, you speak just like a Black South African who speaks English." That was fine by me. Then he said, "Your presentation and your mannerisms are all American." I said, "Interesting!"

KJ: Was that news to you?

HD: It was news to me, but once he said it, then I realized – it was like...just like somebody switching on the light. I realized some specific mannerisms immediately – and clearly – including the fast the pace of my presentation. I thought, He's right! You know? He is right!

KJ: So after what 30 years in America?

HD: In fact he also said that the only thing had remained was my South African accent.

(Laughter) Anyway, how did we get to this? Oh I'm talking about this thing of something coming out of your mouth as one thing, and your subconscious actions as a different thing. Your subconscious actions indicate socialization.

KJ: I think I get the picture that you think the North Dakota Study Group is not the arena to re-learn your life.

HD: No, no. It's not. It's really not.

KJ: Now, let me switch to another aspect of the NDSG. Over the years I have used the North Dakota Study Group as a network. I love the idea that I can pick up the telephone and call anybody when I need to. How do you use the North Dakota Study Group between meetings?

HD: I don't use the North Dakota Study Group as a network. Not the organization. I want to make a distinction now between the North Dakota Study Group and the people who constitute it. I connect with specific people. Just to give you an example, when I was on sabbatical at Cal Tech in '96 or '95, the best group I had there were the people from the North Dakota Study Group. Yeah, we used to meet. In fact, I told them before I even went there that I was coming there. Darlene Johnson, Carol Ouimette was still there at that time, and Susan Audap, and Neil Wrightson, and all of those people, and Taka Suzuki. We used to have those meetings there, these get-togethers.

KJ: Social, or did you have an agenda?

HD: We would have some excuse to talk about something professional. In fact, it would be social, yes. So it was a combination. Then there are others like George Hein who I knew before I went to the NDSG and people like Brenda Engel and Joe Suina I did not know before. Like Claryce Evans. Joe Suina actually gave a Molony Lecture. Bob Peterson did too. And members of the Philadelphia group. And so many others That's what I mean by a network of connections.

KJ: And also people use you as a network. I know that because it came up in the interview I did of Susan Audap. She was in the Children's Thinking Group I started in Los Angeles. When she needed a science consultant in Malaysia, she called you.

HD: That's right. The NDSG was the vehicle for me to get these connections. And of course, Vito, all the time and everywhere.

KJ: When I look at your resume, as you become a national figure on science advisory boards and grants your orbit went way beyond the NDSG.

HD: Those national networks come from the science education community. People like Peter Dow, and Karen Worth, and Eleanor Duckworth are on advisory boards. A lot of people from my wider networks come from the Educational Development Center connection.

KJ: But you never drew them into the NDSG...

HD: No. Not into the North Dakota Study Group. I've mentioned it to those who are connected to childhood education. As a matter of fact, I think, Karen Worth, and some of them might have gone once, because they know about the North Dakota Study Group.

That's one source. The other potential source is the science centers and science museums.

I had an NSF [National Science Foundation] grant for those groups to develop their teacher education component and that grant developed a new network for me around the country. Those advisory groups related to that grant. Another network of science and science education is AAAS – American Association for Advancement of Science – and then there is the National Science Teachers Association. Another significant network in which I have been deeply involved is the National Science Foundation and those relate to the National Research Council, which is one of the National Academies.

KJ: You mentioned that you stopped giving NDSG presentations because you felt that most of these were directed to the teachers, and they were extremely advanced practitioners in the idea that science was the vehicle for language development. Do you remember in the early days, even before Children's Thinking teachers began to attend in 1979, there were no other teachers to speak of, but when you began presenting the group included more teachers.

HD: The impression I had when I first went in 1985, was that the North Dakota Study Group did not have this facet of using science experiences for the same things I was talking about. I thought, for example, they were using social studies, they were using math, they were using the kinds of things Pat Carini was talking about – art, for example. But I came from the perspective of using science experiences for the same kind of thing. At the NDSG people would talk about language development and about writing. I got the impression that that's mostly what people at the NDSG were interested or experienced in.

But after working with teachers here in New York City, who are also in the North Dakota Study Group circles, then I came to realize they were not familiar with the use of science experiences for the same purposes. But as time went on and as years went by and we worked with teachers here in New York, teachers began to think about the use of science experiences to serve the purposes of progressive education.

KJ: I would put that in an answer to the question, “What have you contributed to the North Dakota Study Group?” you probably – both at the NDSG and The Workshop Center – gave people that opening to put more science experience in their classrooms.

HD: I hope so. And I think Eleanor Duckworth also contributed to it.

KJ: This is making absolute sense, especially when you look at the NDSG agenda every year to see that you could pen in Hubert to do a science workshop.

KJ: Is there anything else you want to say about the North Dakota Study Group before we move on to your personal story, which is absolutely crucial as part of this archive as are your thoughts on North Dakota.

HD: No. I’m not sure where in substance the North Dakota Study Group is going, apart from basic progressive education. I really don’t know. We were talking at some point that if you took the work that Pat Carini was doing, and you took the work that Debbie Meier was doing, developing schools, you took the work that Lillian Weber was doing – we’ll just take those three – it was pretty clear where that work was focused, and what those people were bringing to the North Dakota Study Group. Now, that may still be going on

in the North Dakota Study Group, but I don't know what the main, or the core, at this point, is.

KJ: As of 2004, do you think it is clear?

HD: It isn't clear to me. But I'm pretty sure it's clear to some people.

KJ: We could have a discussion about it, but I don't have any insight into that for this oral history.

HD: No, I think that's what the North Dakota Study Group needs to clarify. Suppose we're getting new people, say from Europe, and they were saying, "Okay, there are a number of things we want to do while we are here, and we heard about the North Dakota Study Group. What is unique now? We know about it in the past – what's unique about it now and where does it lead to?"

KJ: And you have to add in the context of where the powers that be in national education are, the NDSG is a lonely voice at the moment.

HD: But when it started, it was clearly focused on the issues of educational testing and evaluation. And it has stayed with that, but staying with it meant developing other ways of achieving the same goals that the testing people thought they wanted to achieve. Now, what solutions are being proposed and implemented? What is the NDSG's stand on those proposals and what are we doing to make visible what we think are better solutions? I'm thinking, for example in 1983, there was a perceived crisis that science education nationwide was in a very poor state. The response was to produce more curriculum materials for elementary schools – or K-6. It is only now that are dealing with the middle

school up to 8th grade. Some people are venturing into high school. But the response also included extensive and long-term professional development of teachers to enable them to implement this elementary science curricula. The 1990s saw the development of the National Science Education Standards which expressed a vision of appropriate science content, teaching, and assessment. Currently, in 2004, there is also an emphasis on practical science experiences as the basis of learning in science and on using science experiences as a basis for developing literacy. Professional science education groups are reacting to the challenge of the anemic state of science education.

KJ: Your opinions and questions will give us all a chance to reflect and will be good for the historical record. Let's talk about how you became a teacher, and what kind of a teacher, and what are the sources that you draw on in your career.

#### **SOUTH AFRICAN CHILDHOOD / BECOMING A SCIENCE EDUCATOR**

HD: I don't know for sure how I became a teacher. I know how I went into science. One of the things that happened when I first entered secondary school – I guess I must have been about 12, 12-1/2 years old – we learned science from demonstrations by the teacher. And when there were no demonstrations, it was all lectures. About 3 of us little boys who were friends got fascinated by these demonstrations. It was really exciting to see things happening and to try to make sense of them. There were about 30 boys in the class; it was a boys' boarding school. There were three of us in that class who, because we were the same age, we'd talk about science. It was not an age-graded system and all the other students were older than we were. The three of us were also fortunate enough to be



friends of two other boys who were just one class ahead of us, and were very interested in science. Very often they would talk to us about science things, and about things in nature, and about chemistry. We were just fascinated in what they said. Because they were one class ahead, we were interested in the kinds of things that they were doing. One of the things we noticed about them – and sometimes they would include us, and in this case, mostly two of us because we were just close friends – was they were doing their science outside the classroom, out in the fields by themselves. After school, they'd go out to the fields. And we asked, "What are you doing in the fields?" "Oh, we look at insects or study frogs." On their own they were doing science. Sometimes we'd go along with them. We found the experience fascinating.

Now, contrast that with what was happening by the time we were in our last two years of high school. Science, especially biology, consisted of reading the textbook. I remember my friend and I would say, "There's got to be something better than this." We didn't express it that way, but we said, "Science cannot be as boring and as laborious as it is, because look at all of these people who are in science? They can't be doing this boring thing." I'm stating it that way now, because I'm grown up and I'm experienced, but we also knew what these other boys were doing. So we decided on our own – just the two of us – when we go to college, we'll go into science. And our motivation was to really find out what's interesting in science. And that's how I got into science.

KJ: And your parents in all of this? You said “boarding school” so clearly you were away from home.

HD: Well, my mother – I had one parent. My father died when I was 2 years old. So my mother didn’t know about this. She didn’t know about science. Anybody to whom we talked about science would say, “Oh my goodness! That’s so difficult! Nobody understands what that is.” And yet, we knew, as I said, those two boys who were one class ahead of us, had an impact in keeping our own interests in it.

My friend and I agreed that we’ll go to medical school, because that’s probably where we would learn about science the most, but we also thought that there are a few doctors anyway, so maybe that’s what we’d do. But I knew from high school, medical school was going to be seven years. Gee! That looked like an awfully long time. But anyway, we agreed. My friend went straight to medical school, because you could do that and do your pre-med in medical school. I went to the university where everybody else went, and into science. An unfortunate, but fortuitous thing happened during my freshman year. We lived in dormitories. I don’t mean a hall of residence; I mean a room that takes more than four students. A dormitory is a large room in a hall of residence. So there were 12 students in our dormitory which was unusual as freshmen. Usually, the maximum would be 4 to a large room. But this was a huge room. We had a common bathroom with other students from another dormitory. About three months or two months, I’m not sure, before the end of the freshman year, one of my roommates contracted scarlet fever. Immediately all of us were quarantined and couldn’t mix with other students. They

just simply sealed this room, and we were there. They would bring food for us but leave it just outside the door and go away. Of course, we couldn't go to classes and we couldn't go to the labs with other students. I remember one of the fellows who was in the pre-med program saying, "Gosh! I'm going to fail! I'm not going to go to medical school!" There were 12 of us and we were all in science except the one who had scarlet fever. I don't know who suggested this, but we said, "While the other students are gone to classes, let's go outside to the bushes and study the biology there." The university allowed us to go the chemistry and physics labs at night when other students were not there. Professors sent their notes, which we did not understand at all. We did science on our own for almost two months without interference of professors or anything. We did very well and all of us passed our freshman year. I've told people if that quarantine had not happened, I might have failed my freshman year in science because I found it difficult when we attended lectures followed by labs. And then in the evenings, we'd go to the chemistry labs and physics labs. I mean, I wasn't sure what I was doing in the chemistry lab. We were mixing things and separating things. Only much later when I was a graduate student, I realized that that was real chemistry we were doing! So that's how I got into real science. But I learned something there: that science is more interesting and more understandable if you learn it yourself. Design the things yourself and carry out those things yourself. I've never forgotten those lessons.

Now, you asked about the two older boys. Those two were at the same university with me, still one class ahead and they gave me confidence and comfort in science even

at university. They said, "This thing is easy." As sophomores they said, "This thing is easy. If you go out and you do it yourself, it's much better than going to the classes."

So that's how I stayed in the sciences. I decided not to go to medical school. After doing science without professors I got very much interested in science. After graduating, one of those boys, Sohl Thelejane, who was a year ahead of me in high school became a student mentor. I guess you'd call him a graduate assistant. He would help us when we were doing labs. I remember asking him, "I don't know how to do this dissection – can you tell me how you do it?" My friend, my close friend Sohl would look at me and say, "Why should I tell you that?" I said, "Now, come on. You help me." And he said, "No. This is more exciting if you find out yourself. I'm not going to tell you." He never did tell me. But there were others who asked for the same help and sometimes he would tell them. We lived in the same residence hall and at night, I would ask, "Why? This is ridiculous. Why did you tell the others?" And he'd say, "No. I know. It's very interesting for you. These other people are probably not going into science very much, but you, you can do it, because you did in high school."

KJ: I have a question, at the risk of interrupting your narrative. When I was struggling with curriculum ideas for my open-ended science program, you made it very clear, in order to get the benefit, you have to have theory building and documentation and reflection on the data. I valued the hands-on experimenting for the 40 minute periods more than the documentation and theory building so maybe it wasn't a strong enough program. But

during this time, it doesn't sound like anyone imposed anything on your exploration or inquiry; wherever you ended, you ended.

HD: But we also had to pass the exams. I also began to understand better what I was being taught by the professors as a result of having done things on my own. There was so much evidence, so much data from the science labs. It wasn't evident at that point to me when we were doing science on our own, but there was so much to learn out in the field and in the lab with no instructor that I was ready now to try and find something that would help me unify and make sense of all these things. That's when I went to the theory. And then I used the knowledge of the theory to do other explorations. I had read these other models of people who had done the science, as described in these books. They finally began to make sense to me.

KJ: And that makes sense. I still struggle with the implications for my middle school science class.

HD: Remember still at this point, however, in university we were making our own theories. Except they couldn't account for many of the things that we saw, I'm pretty sure. I don't remember them, but I must have had my own theory about how things were happening, and to all intents and purposes, as far as I was concerned, they were scientific theories, because I was studying things of nature. But they did differ from other theories that were in the books, what are called standard theories.

KJ: But your imperfect conceptions eventually became successive approximations?

HD: Successive approximations, yes, with input from professors and from books, my understandings were getting better. I usually say they were getting refined. But in a way, in fact, these understandings were probably drastically changing. The concept in my mind was I'm improving what I already knew, and it's becoming more scholarly, more academic. I'll give you an example from what you would call a senior year here. I remember traveling by train home from university but it was going to take me the whole day. I had done geomorphology as part of the study of land forms and topography for my science degree. Here I was sitting in the train and looking through the window, and I remember this very vividly. I was struck by a land form that we are just passing. And I said to myself, "Oh my goodness! Look at that!" And I could describe all the features and all of that from a geomorphological point of view. And then I just got transfixed into the landscape as the train was traveling. I was looking at different land forms. Suddenly, all the land looked very different. It looked very different from the way I'd looked at it before. When I got home I would tell my mother about the kinds of things when I looked at the mountains. I was talking of ridges surrounding us, and the scientific theories that had been put forward about continental drifts and plates. Of course she would say, "I don't know what you are talking about." But sometimes she would say, "You know that's the kind of thing you told me about when you were at high school. During holidays you would looking at insects? It seems like you're doing the same thing now, even though you're grown up." Then that's when I connected. I said, "Ah! I was doing science then; and I'm doing science now." So the whole thing of science became very different to me.

So it was first dealing with nature and doing things, and building up my own theories.

You can't escape it, if you're a human being you build theories. And then you go back to the books, and begin to make connections and see what they were describing and relate to it. So that's how science became, more or less, a part of me.

KJ: Then you got your BS in science and your credential to be a teacher?

HD: Yes. I said to my friend who was at medical school, "You know what? I think I'm going to teach. I want to be a science teacher. At least it will give me pleasure to get some young kids at high school who can see science the way I see it now, the way we were not able to see it in our classrooms at high schools." Without hesitation, he said, "That's the right thing for you to do." So I went and taught high school science. When we were doing science we would just leave the classroom because there was all this rich environment surrounding us. I would take these kids out, and they always knew – if it was science, we're going out. (Laughter) There was a small lab, but we would do science mostly outside. I did that for two years, and then, as it were I was snatched by the university from where I graduated to teach teachers.

KJ: After two years in the classroom?

HD: Two years in the classroom. I said, "No, no. That was not enough."

KJ: Did you feel like you mastered the teaching?

HD: No, I was learning. One of the main reasons I agreed to do it is because the people I would be teaching were in the teacher preparation program. They were the same people I

knew, we were all students together when I was a senior and then did my post-graduate certification.

KJ: And you didn't feel that was illegitimate after only two years of teaching?

HD: Oh, I didn't have that sense that I was going to be a teacher of teachers. These were people I knew as students together, but they were just behind me. And all we were going to do was going to talk about these interesting things we were doing with kids. But not only that, I was going to spend a lot of time in classrooms because I was going to have to supervise them in their student teaching. The science teachers in the schools were people I knew from student days. I thought they would help us out with their own experience.

KJ: So this sounds like a very tight community?

HD: Oh, it was a – how am I going to do this? How am I going to tell you? You see, the school where I taught was probably half a mile from the university. Then, there was another high school, which was about two miles from the university. And there was a huge hospital there, a teaching hospital, which was one mile from the university. And it was just a little town. I mean, the university dominated the whole area. This whole place was a citadel of educational institutions. In fact, you only had to go about six miles, and there was another huge high school and a teacher's college as well. And going in the opposite direction, maybe another 10 miles, there'd be another school.

KJ: And this was where?

HD: The University of Fort Hare, South Africa. Many children who came from those communities and from other parts of South Africa went to Fort Hare. And when they



completed their degrees, if they went into teaching, they taught in those schools. Most teachers were young, just maybe two years ahead of me. There were older people as well, but only a few.

KJ: It sounds to me very much like nirvana, that you could do what you wanted. You could leave classrooms; there was no bureaucracy to stop you and say, "But the exams! The exams!"

HD: The exams were there, but we knew we could handle that. Teachers had – what shall I say – autonomy in teaching their subject. There was a syllabus, and we would cover maybe 60% of that syllabus in year for a five year high school program. The external examinations were at the end of the third year and at the end of the final fifth year of high school. The examinations focused mostly on the fundamental concepts and knowledge and all of them were written essays and lab exams.

KJ: Earlier you talked about how it was all European-centered?

HD: Oh, no. This was South Africa. Remember, now? It was not the other African countries. No. South Africa was not European centered. The system was European-based. But the syllabuses and everything were all local. South Africa gained its independence in 1910.

KJ: It sounds like you had a wonderful early entry into science.

HD: Well, we had wonderful teaching, and we had pretty good teachers, and good professors. And here's what's also important throughout my schooling, all the way from wherever you start, until through my bachelor's degree, I was never in a class with more than 25

students or so. Even at the university. Freshman year, I think, had about maybe 26 or 27, in that one class.

KJ: No big lectures in anything, in any introductory courses?

HD: No! There were no big lectures in the introductory courses, because the university was small. It was deliberately kept small.

KJ: Lucky you. So what made you go off to the University of Illinois?

HD: Few as we were, however, we were involved in other things as well, such as student protests in South Africa against racism and all of that. And that university was where just about every Black person came from, and there were no White students there. The government saw that university as a hotbed of radicals. But of course. It had to be. These were future leaders. Mandela and all other leaders and followers went there. Not just from South Africa. That university catered for Black people, all the way from Uganda and beyond. Fort Hare was actually an incubator for leadership. But only at the university. When we went out and the police or anybody found out you were from Fort Hare, you were immediately a dangerous person. So no matter where you were, you were just forced by being a student there to be an agitator, as they said. But to be against what was going on.

KJ: And meanwhile, you were about a day's train ride from your home....

HD: Yes. In the trains we had to be very careful, because if the officials knew we were all from Fort Hare, we would be closely watched. We organized our travel home in groups

according to destinations, enough in each case to fill about four cars on the train. That way the conductors and the police would not bother us.

KJ: So you weren't really afraid?

HD: We were not afraid.

KJ: Or, you just got used to being afraid at a certain level?

HD: At times we were really afraid; sometimes, these officials had guns. I'm leading to the point of leaving and going to the University of Illinois. Me and my friend who went to medical school—he was already a doctor then—told ourselves, "We are going to get killed here, so we've got to try to find ways to escape so that our children will not grow up like this, like we did." So we knew at some point we would just have to leave the country, somehow.

KJ: Your mother knew that, too?

HD: No. But even if she knew, she would have felt better about it, because one of the things about Black parents in South Africa was, if you were a son out in the street, even if you were a university student, your parents did not know if you were going to come back alive. The danger was not from gangs, but from the authorities, the police. It was a rough life.

KJ: Which is so at odds with the idyllic story of the nature study.

HD: Yeah! I mean, the study of nature was a different world altogether, and we knew that it was. And that's why, for example, Black students from Cape Town travelled almost 700 miles – to this one university instead of going to the University of Cape Town.

KJ: Were any Black students allowed in Cape Town?

HD: They were allowed, except in medicine. But we knew, in South Africa, if you were Black, if you went to any of those White universities, there was kind of some unwritten law we thought, that if you're Black, you'd better not go to science; you better not go to law; you better not go to medicine, because you're going to fail. It didn't matter how good you were, you were not likely to get a degree in those three areas.

KJ: This mirrors what scholars like Jackie Jordan Irvine says, along with other people who have written about discrimination in the American south. Schools that were segregated were much better for the Black psyche.

HD: Sure. In fact, even visitors to South Africa from the US and other countries would visit several universities, and observe that the only university where Blacks and Coloreds and Indians could attend was Fort Hare.

I was always on the lookout for ways to get out of South Africa so I applied for scholarships all over the place, and finally got one. I applied for a scholarship advertised at the universities – there are lots of them – and I got called for the interview. I almost didn't even go for the interview, because I said, "Oh, what's the point. I'm never going to get these things." But I did go and while I was there, I found there were 150 applicants for these scholarships across the whole of South Africa and they were going to select only about 10 or 15 people for these scholarship in America. There were four Blacks selected out of that whole bunch, and I think altogether five or six Blacks had applied out of the 150. Four got the scholarships, which was a big number and I got one. That's how I left.

Students went to different places. In fact, I had asked for placement at MIT, or at Yale.

But I was told “Well, here’s the situation. The University of Illinois gives fellowships to students from all around the world, including the US, and they give about 150 fellowships a year to the top notch students.” I was told that my application had been sent to several American universities and the University of Illinois had selected me for a fellowship. I was told that, “ If you don’t want to go there, it means we have to get money for you to go to MIT or to go to Yale.” So I said, “I’ll go to Illinois.”

KJ: Had you ever been to America?

HD: No, they said, “You’ll start at Yale for a summer.” This is called orientation. So I came to Yale for the summer, and then from there, I went to the University of Illinois. Well, when I applied to the University of Illinois for those scholarships, I did not have a master’s yet. Because you apply in July in order to be admitted for the following calendar year in September – I completed my master’s during the period when I was in South Africa. So I expected to come to America for my Ph.D. But when I got to the University of Illinois – they said they had selected me on the strength of my bachelor’s and my honors degree and when I told them I had a master’s, they said, “We can’t just accept it because we only have your master’s certificate. We’ll judge you on your first semester performance. If you do well, we let you into the PhD program.” I did well and was accepted into the doctoral program.

**CAREER AS A SCIENCE EDUCATOR IN AFRICA**

KJ: Remind me how you happened to get back to Africa to work.

HD: Remember that when I was at the University of Illinois, I'd met a fellow graduate student, Roger Brown, who wanted me to go to Sierra Leone where he had planned to work as a member of the University of Illinois faculty. He had never been out of Illinois except when he was in the Navy. He was going to Africa for the first time. I wanted to go back to Africa with him. But I knew I couldn't go back to South Africa at that time, because my passport had died while I was at Illinois. After two years in the U.S. I couldn't go anywhere. Immigration contacted me and said my passport was expiring and they did not have any application from me to continue to stay, "So please correct the situation." I wrote back to immigration and said, "Well, South Africa is not going to give me a passport but I'm not giving up, I'm still talking to them." And indeed, I had sent my passport for renewal. I told the South African authorities, "Look, in the first place, you killed this passport after two years, so could you please renew it and extend it?" and I never heard from them. I never went back to South Africa.

HD: I never went back. I went into voluntary exile.

KJ: What about your mother? Did your mother come and visit you?

HD: Oh, my mother died about six months after I got here. And I couldn't go back to visit, because I knew then that would be the end of my freedom.

KJ: And you had siblings, if I remember.

HD: Yeah, my sisters were there. They agreed with me, except my eldest sister. She was never in favor of my leaving South Africa in the first place.

KJ: Leaving her with all the support to do?

HD: No, my mother was actually very happy when I left. She was saying, "Gosh. I don't have to worry." She said she knew. She just said, "This is good for you. Go." Some of my professors here in the United States – in fact, my immediate professor – were telling me, "Stay here in America; don't go; you can have a career here." I said, "No, I do want to go." For one thing, I promised this fellow student that I'd go and work with him. Another thing was that I really wanted to go to the other countries. The problem was, I didn't even have a passport to go to other countries. (Laughter)

KJ: How did you resolve that?

HD: The Institute for International Education (IIE) was my official sponsor here. In fact, my program officer Mary Kay Martin – we still talk to each other; she lives in Chicago – was amazing. She's about my age. So I was surprised in the first place that they would give me a young woman to supervise me, as it were. She would come down from Chicago and take me out to dinner because she wanted to know how I was doing. But she said to me, "Why ... this is amazing. We are having a hard time getting people to go back home, and your professors are asking you to stay, and you said no! You want to go." She said, "This is exactly the opposite, and you don't even have a home to go to, but you want to go." But IIE arranged for me to come to New York, and they gave me somebody, Ian Meckler, who actually went with me to the South African Consulate. He went with me

and actually got that passport out of that South African consulate, right here in New York by saying, "Look. He has finished; he wants to go home." So they said, "Oh, yeah, he can go home. Here's his passport." Of course, they had lied the day before and said the passport was in South Africa. But they said, "He can go home." I said, "This is a dead passport. I can't go anywhere with it." They said, "Oh, you're just going to fly from here to Johannesburg; it's your home and this is your passport." So I said, "You know what, this American doesn't know this law." There is a law in South Africa – maybe it applies only to Black people – that if you are out of the country illegally, which I am at this stage, you go straight to jail, six months hard labor. There is no due process – nothing! The South African guy looked at me, and he probably said to himself, "The Americans have ruined this man!" He said, "There is no law like that." I said, "There is a law. You're White; maybe it doesn't apply to you, but it applies to us." He said, "Okay, I'll have to call." So he went back there, about 10 minutes or so and he came back said, "Okay. We revived the passport, but only for 10 days." I said, "Fine."

KJ: So what did you do?

HD: I said, "What am I going to do for 10 days?" They said, "No, this passport is just for you to fly, to go to South Africa. You'll be legal when you get there because you have a valid passport." I was trying to argue but this IIE guy was kicking my foot saying, "Take the passport and let's get out of here." (Laughter) So we took the passport and left. Well, of course, I went to the Sierra Leone Embassy. I said, "Look, I have this job in Sierra Leone.



I have this South African passport which is virtually useless.” They said, “We’ll give you an emergency travel document.” They gave me a one page sheet of paper with my identification information photograph and authority to travel to Sierra Leone. The ambassador told me, “When you get there, that’s your problem, because you can’t use this to go anywhere else.” And guess what? Two years later, I used the same thing to come back to the United States! (Laughter) I entered through Chicago to take up my summer job as a visiting professor at the University of Illinois. The immigration guy looked at it. He said, “It has an American Embassy stamp alright. Yes, you are approved for entry.” But he said, “I’ve never seen anything like this!” I said, “What?” He called about 10 other people. He said, “Guys! Come here! In case you get this thing, too, one day.” These people were saying, “What kind of American Embassy approved this?” (Laughter)

KJ: Did you worry that you were going to get stopped and not be able to take up your job?

HD: Oh, yes. Before I left Sierra Leone, oh, yeah, I was worried that I wasn’t going to be able to enter. I didn’t know enough. You just go, and that was it. I went to Africa to work on the science curriculum projects that the Education Development Center was doing. I was involved at the University of Illinois with all of that science development; there was a science education development movement. I was a graduate student. And I taught some of the courses at the University of Illinois. So I knew about the program in Africa, and I wanted to join at least part of that. I went to Africa to work with my American friend Roger Brown, where he was in charge of a curriculum development center and we educated teachers. Then I came back to Illinois for a summer and Brown’s term was over

after that summer. The University of Illinois employed me to take his place in Africa, so I became director of that center.

KJ: At a very young age? You rose very fast.

HD: Yeah, that was quick because I didn't take many byways, you know. It was straight, except for that teaching in high school stint for two years. Anyway, I became director of that center, and went around Africa. Education Development Center [EDC] also had a program in Sierra Leone. EDC placed a staff member at our center, so we got some funding through them. That was in the summer of '68. In February of '69, African countries that had been working with EDC held a meeting in Ghana. They'd been saying for years that the program should really be directed from Africa. EDC had agreed that the program be directed from Africa because, after all, the program was really started by Africans, with money from the United States. So representatives of African countries selected me to call another meeting of Africans, of people selected by their governments to meet and decide on the future of the program. So I organized that meeting, and it took place in Sierra Leone. There they formed a new program called Science Education Program for Africa. The primary science program went only for primary schools. But this one, they said would go from primary through university education. So it was going to be university education, high school education, elementary teachers education. So they asked me to start an organization that would unite all of these African countries around that program. Membership was to be by state government. It was a very complex thing, and I don't want to go into details of that. But the University of Illinois agreed to pay my

initial salary and EDC agreed to fund meetings and travel for me to come back to America and be introduced to the State Department so they can know who's going to be in charge of the organization. But I had to raise money for all the programs that EDC was not funding. I came to America many times to talk to the Ford Foundation, Carnegie Corporation of New York, and other foundations. I went to the United Nations, and their specialized agencies gave us money. The British system gave us money as well. The Carnegie Corporation of New York gave us a huge grant. It was \$600,000. Imagine \$600,000 in the early '70s. That's the equivalent of over a million in 2004 dollars.

When I went to Africa to participate in this EDC sponsored program, I went to one of those meetings, and guess who was there? One of those former high school friends, Sohl Thelejane, who was one class ahead of me at high school. He was in Lesotho and he had been involved in the EDC program from there. I knew his name was there in the program. I think we spent about 8 or 9 hours just talking to each other. We took a long walk. And we were saying, "This is the thing we wanted to do in South Africa, even when we were young. It was precisely this type of thing." So we connected.

KJ: This is a pretty amazing group. And such cohorts appear and then they go. Was that true with your friends?

HD: Well, what happened when I went to Africa, I was going to all these countries, trying to form this organization. And I get to Zambia, and people there knew I was coming. Who was the minister of education? It was the guy, Sikota Wina, who was in the same class with me at Fort Hare, the university in South Africa.

KJ: Did the people from Fort Hare dominate every single field in every subject?

HD: Remember I told you Fort Hare was about the only university where Blacks from Southern and Eastern Africa could go, from Uganda, Zambia... It was a very talented group — a string of people like Oliver Tambo, Nelson Mandela — all of those people went there. We were just following after them. So it was a continuous stream, you see, until the South African government finally woke up to this, and in 1958 passed a law breaking down the University of Fort Hare. The government established small tribal universities, which were weak, had very poor faculty, and very few people have come out of those. The present generation of young people — say people who are in their '40s or early '50s — they went through that. The people/students are good. They are intelligent.

So anyway, we've gone full circle now. From high school to university, and then reconnecting with people who had inspired me and my friends when we were little boys doing science, especially Sohl Thelejane from Lesotho, who was very highly respected. We worked together now to create this Science Education Program for Africa.

The Science Education Program for Africa actually had three foci. One, to be a clearinghouse for science education ideas, a bank for science education ideas, programs, resources for African countries. Secondly, we wanted to establish institutions that could educate, develop human resources in areas that were very weak in science education. One of those was educational evaluation. So we established a center at the University of Ibadan — which is still going on. It's called International Center for Educational Evaluation. We developed evaluation programs and trained specialists in educational

evaluation for all of Africa. Another center we established is at the University of Sierra

Leone, which was to develop and produce science educators – people like me. That is still going on. That was number two – establish these specialized centers because we wanted to build these human resources. And thirdly, it was to continue the work that EDC had started, especially building specialized institutions in each country, to carry out this work. And also to produce materials to support science education. So that's what we did, and that's what the program did for Sub-Saharan Africa.

KJ: And on your resume, it looked like through the '70s you travelled all over.

HD: I was in Europe – and all over the place working for the Science Education Program for Africa. Because, remember, in 1970, we had a meeting that February and in October of 1970 I moved to establish the organization with headquarters in Ghana. I had to be raising money for it. I was head of the organization all the way up to '76.

In '76, I was lucky to go to All Souls College at Oxford University as a Fellow, which is totally another story. (Laughter) I became a Fellow by invitation to reflect on all the work that I had done. The invitation follows a complex process. All Souls Fellows study the record of your work, and then one established fellow nominates you, and then displays all of these things that you have done, and that, then, is a good cause for the nominee, who's a scholar, to come to All Souls and get this free time not to worry about anything and just concentrate, cogitate, and think about and reflect on all the work he has done and put it together. It has to be 'he' because All Souls did not have women fellows until 1979. The purpose of becoming a Fellow was to help me conceptualize a whole lot

of things. When I got there, they told me I should decline every invitation to go and give a lecture. They say if you want to, you can write it, but it's not mandatory. All Souls was established some time in the 1300s as a place for children of high school age and post-high school age to come to read and study. Those kids would become lawyers or barristers or whatever they wished to be, without having set foot in a formal high school class. So that's how it came about. And it was an endowment. It's probably the richest college in the whole world. Oh, by the way, they have had only three Black people there as fellows including me, at the time I went there. One was a Ghanaian, William Abraham and the other was Hugh Springer. I don't know if they've had any since I left.

After Oxford I did go back to Africa to the Science Education Program. I went back as a program director, because I'd already told them – I'd been telling them even from the beginning – that there were two things that were in my mind: I wanted to go back to the United States and be a university teacher, and secondly, they really needed someone from an independent African country to be head of the organization. Not someone like me from South Africa. And they did not want to hear a thing about that. How those things I did become possible is because I didn't belong anywhere. They said everybody supports Blacks from South Africa. So I was very fortunate in my circumstances.

KJ: So you then went back to the University of Illinois?

HD: I went to the University of Illinois because they had an African Studies program. I went there on two accounts in '78. One, as a professor in Science Education, and while doing

that also working in African Studies to introduce the components of science and technology. I had really wanted to get away from that African job, although I was still connected with it. The woman who took over from me in Africa, an outstanding biochemist, Dr. Marian Addy, would come to Illinois so we could write up the programs. The State Department actually did want to support somebody they knew and trusted, and she had gotten her Ph.D in America. But they didn't know her; they knew me and I introduced her. I did that work with Africa until 1978 and again in 1981-83. I was getting exhausted. I said this is just too much. Then I came to City College in New York in 1984 and became the director of the Workshop Center.

**FROM AFRICA TO NYC**

KJ: Let's talk about how work in all of Sub-Saharan Africa compares to the work in New York's Board of Education District 6.

HD: District 6 is just a school district. That work was nothing compared to Africa in scope, and even in depth. Remember we had to build these institutions in Africa from virtually nothing.

KJ: How come you can change a whole continent and changing one school in District 6 is so hard?

HD: Yeah, but you see, one of the big things that we did in Africa, which is what the Africans and EDC and to their credit, the State Department, wanted to do, was to make this a truly African program. We involved African scientists from African universities. We involved

people from the government. They were very highly specialized people in government service. For example, people in economics, people in human sciences – all kinds of specialists. And then, we involved the international community, because we're an international organization. The international community, like the United Nations and embassies of different countries. The Germans put in a lot of money. You see, we had a Secretariat with a pivotal role. We had a small office, which was just a house, a two-floored house. And there were only two professional staff members. I was the executive director, and Mike Savage, a specialist educator, would sometimes run specific programs. What we did was create teams which moved from country to country, but always the core would be somebody in that country. For example, we put out a book on the impact of the African environment – physical and social environments – on children's intellectual development. It was funded by the United Nations' Environment program. I had people on the team from five different countries, including Europeans. We never excluded non-Africans. We included Europeans, Americans, Canadians. Eleanor Duckworth was one of them. As you know she is Canadian. So it was these specialized teams that did the work, but always there was a hub in each country, around which everything revolved. Those institutions were called curriculum development centers. They were actually more than curriculum development centers. They were actually the ones who were responsible for implementing the program in their own country. I did that from 1970 until 1977, I think. '78, actually. Because I was getting exhausted. I said, this is just too much

KJ: By that time had you met Becky?



HD: Oh, yeah, because we got married 1970. But she was in the program, too, as a science student and then as a science educator.

KJ: Where was she from, in Africa?

HD: Sierra Leone. So in a way, coming to the US, and even working in these workshop centers and all of that, there was a kind of resting thing for me. (laughter). The major difference was, in Africa we really didn't have the "grief" that one can experience here, of administrations blocking things in schools. You are a school person; you know very well administrations can do that. In Africa, we didn't have that. We asked each country to give us only 30 schools, which was a lot. We said, "We don't want to deal with the whole country, just 30 schools, so that you have living examples of what works," and they did. But at no time did they say, "Look, this is undemocratic; we want to cover the whole country." My role, primarily, was merely to be a broker, to connect countries with resources.

KJ: That's so unlike anything I would think you would enjoy. No wonder you got tired.

HD: Oh, yeah! I got tired! You are asking me about having taught two years of school, if that was enough or if I thought that was enough. Of course, it was not enough, and I never thought it was enough. But notice now, I taught university for, let's see, for two years before I left South Africa. And I don't count University of Illinois there as a graduate assistant, but I taught university for four years in Africa. So altogether, I had been a professor for six years. Now, I said, "That is very much inadequate," and I was dealing with university people and dealing with school people. I was fortunate enough that I had

even those little experiences, because I could then function at all these levels, except in the elementary schools. I always said, "At the elementary level I'm always going to have a teacher with me. I will not put those children at great risk just by having me alone as their teacher." Yeah, I always had a teacher, which meant I had to work with the teacher and develop her or him to a certain level.

KJ: Which probably has an impact on how you think about teaching?

HD: Oh, it had an impact. But there's one thing that I recognized and which had helped me. I had recognized, even when I was in South Africa, that teachers know a hell of a lot about how to handle children. And I did not develop that part of my own education when I taught for only two years. So a teacher was always there, and once, if I taught a lesson, I would also make sure she taught the lesson in another class. And I would see how differently she handled the thing. The pacing ... like, she would do maybe one quarter of what I did. And then I'd go to her and ask, "Why didn't you stop me when I taught the lesson?" She said, "Well, you know..." (Laughter) And they knew how to be firm with kids, and at the same time, not give the impression that they were harsh with them. And I didn't know how to do that. Anyway, I learned a lot. I knew all the time, I said, "Look, I can come in with my science education in science, but I'm going to have a teacher do it." So apart from learning about the value of teachers I learned about the value of children's knowledge, but here's the other thing – which is really a big piece, by the way even though I'm mentioning it as a small part. When I was in Africa, and we're doing the science, I remembered some of the things I learned in childhood, outside school.

Because, then they made sense as science. For example, identification of trees and all of those types of things, which we knew before we went to school. This was parallel to schooling. And only when I began to get into science, I realize that, gee, that's what we were doing outside school, the classifications, and all of that. And then, of course, looking after animals. Now, those things began to gel as something that is organized as knowledge.

So when I came, for example, to the United States and had people like Lillian and you talking about building on the strengths of children, that resonated with me because I knew it already. And in the case of the kids in Africa they know some things, much more than we adults do. So all of these pieces came together.