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**SHIRLEY MAHALEY MALCOM**

PCAST

Transcript of an Interview  
Conducted by

David J. Caruso, Kenneth M. Evans, and Kirstin R. W. Matthews

via Zoom

on

5 and 25 August 2020

(With Subsequent Corrections and Additions)



*Photograph of President Clinton with Shirley Malcom, December 1, 2000, Digital Book 7, D669-09 (FOIA # 2008-0666-F), William J. Clinton Presidential Library*

**Shirley Mahaley Malcom**

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Date

## **ACKNOWLEDGMENT**

This interview is part of a research project “The President’s Scientists: Understanding the Role and Full Impact of the President’s Council of Advisors on Science and Technology (PCAST) Through Oral Histories.” Funding for the project was provided, in part, by a grant from the National Science Foundation (Grant No. SMA SBE 1854055). Additional support for digital archiving was provided by the Baker Institute Civic Scientist Program, The Richard Lounsbery Foundation, and Humanities Texas, the state affiliate of the National Endowment for the Humanities.



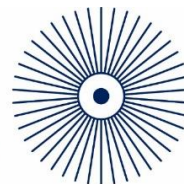
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## SHIRLEY MAHALEY MALCOM

1946 Born in Birmingham, Alabama, on 6 September

### Education

1967 BS, University of Washington, Zoology  
1968 MA, University of California Los Angeles, Zoology  
1974 PhD, Pennsylvania State University, Ecology

### Professional Experience

1974-1975 University of North Carolina Wilmington  
Assistant Professor

1975-1977 American Association for the Advancement of Science  
Research Assistant, Research Associate, Project Director, Office  
of Opportunities in Science

1979-1989 Head, Office of Opportunities in Science

1989-2018 Head, Directorate for Education and Human Resources Programs

2018-present Senior Advisor and Director, SEA Change

1977-1979 National Science Foundation  
Program Officer, Science Education Directorate

1977-1979 Program Manager and Program Director, Minority Institutions  
Science Improvement Program

1994-1998 National Science Board  
Member

2006-2007 Co-chair, Commission on 21<sup>st</sup> Century Education in STEM

1994-2001 President's Committee of Advisors on Science and Technology  
Member

1999-2003 National Park System Advisory Board  
Member

## Honors

1994	Fellow, American Association for the Advancement of Science
1995	Fellow, American Academy of Arts and Sciences
1998	Alumna Summa Laude Dignata Award, University of Washington
2001	Distinguished Alumna Award, Pennsylvania State University
2003	Public Welfare Medal, National Academy of Sciences
2015	UCLA Medal
2021	Recipient of the Golden Key Award, Sigma Xi
	Fellow, Association for Women in Science
	17 honorary degrees



## ABSTRACT

**Shirley Mahaley Malcom** was born in 1946 in Birmingham, Alabama, which was a segregated city. She grew up in her grandmother's house with her parents and sister and was surrounded by other family and a strong Black community. Malcom attended Hudson Elementary School until sixth grade when she started attending Lewis School where her mother taught. She talks about experiencing the Civil Rights movement, the importance of voting, and the bombing of different churches in her community, included Bethel Baptist Church in 1956. Malcom attended George Washington Carver High School and graduated in 1963 at the age of sixteen. She talks about her family, including her mother going back to school and her father being treated at the Black VA hospital in Tuskegee, Alabama. Her parents expected her to go to college, and she selected the University of Washington. Malcom discusses the challenges she faced as a Black woman moving into a white community. She spent a lot of time studying in college and talks about the classes she took and switching her major to zoology. Encouraged by her advisor to attend graduate school, Malcom accepted an offer at the University of California, Los Angeles. She earned a master's degree in 1968 and took a leave of absence from the PhD program to teach at Marymount High School.

After some traumatic events in her life, Malcom decided to go back to graduate school and accepted an offer at Pennsylvania State University. She discusses enrolling in the PhD program in ecology and meeting her husband in the registration line. After receiving her PhD, Malcom taught at the University of North Carolina Wilmington before moving to Washington, DC, with her husband. She started working at the American Association for the Advancement of Science (AAAS), where she has spent the rest of her career. She discusses her work at AAAS, including the "Double Bind" reports. Malcom briefly moved to the National Science Foundation for two-and-a-half years before returning to AAAS. She assisted with two major reports, "Equity and Excellence: Compatible Goals" and "Investing in Human Potential." In 1993, Malcom joined the National Science Board (NSB). A year later, she joined Bill Clinton's Presidential Council of Advisors on Science and Technology (PCAST).

Malcom discusses her service on the President's Committee of Advisors on Science and Technology (PCAST) and NSB, topics they considered, and interfacing with Congress and the White House. In particular, she testified in Congress about the Partnership for Advanced Computational Infrastructure (PACI). She talks about the racial and ethnic compositions of PCAST, her interactions with other members of the committees, and the letter-type reports PCAST submitted to the President and why letters worked better than full-length reports. She details what it was like serving as a Black woman on these committees and her later work at AAAS, including working with STEMM Equity Achievement Change [SEA Change]. Malcom also mentions other diversity work, talking with George W. Bush about improving education in schools, and interacting with Congress and PCAST as a part of AAAS.

## INTERVIEWER

**David J. Caruso** earned a BA in the history of science, medicine, and technology from Johns Hopkins University in 2001 and a PhD in science and technology studies from Cornell University in 2008. Caruso is the director of the Center for Oral History at the Science History Institute, president of Oral History in the Mid-Atlantic Region, and editor for the Oral History Review. In addition to overseeing all oral history research at the Science History Institute, he also holds an annual training institute that focuses on conducting interviews with scientists and engineers, he consults on various oral history projects, like at the San Diego Technology Archives, and is adjunct faculty at the University of Pennsylvania, teaching courses on the history of military medicine and technology and on oral history. His current research interests are the discipline formation of biomedical science in 20th-century America and the organizational structures that have contributed to such formation.

**Kenneth M. Evans** is a scholar in science and technology policy at Rice University's Baker Institute for Public Policy. He received his B.S. in physics from the University of Virginia and his M.S. and Ph.D. in applied physics from Rice University. His research focuses on the history and organization of the U.S. federal science advisory and policymaking system, with an emphasis on the role of the White House Office of Science and Technology Policy.

**Kirstin R. W. Matthews** is a fellow in science and technology policy at Rice University's Baker Institute for Public Policy and a lecturer in the Department of BioSciences at Rice University. Matthews manages the activities of the Baker Institute Science and Technology Policy Program, and the Center for Health and Biosciences' Biomedical Research Program. Her research focuses on ethical and policy issues at the intersection between traditional biomedical research and public policy. Specifically, she focuses on regulation and ethical issues associated with emerging biotechnology, including vaccines, stem cells and genomic medicine. Matthews also leads a project to review scientific advice in and to the federal government, including the White House Office of Science and Technology Policy and the President's Council of Advisors on Science and Technology. Matthews has a BA in biochemistry from The University of Texas at Austin and a PhD in molecular biology from The University of Texas Health Science Center at Houston.

## ABOUT THIS TRANSCRIPT

This interview was conducted as part of the project, “The President’s Scientists” (NSF SMA SBE #1854055). The goal of the project is to improve and expand existing knowledge of the role of the President’s Council of Advisors on Science and Technology (PCAST), and its impact on U.S. federal policy. This project examines the working nature and policy impact of the council by compiling and analyzing presidential archives and university collections of former presidential science advisors (developing a digital archive of this material); and conducting oral history interviews of select former PCAST members to determine their perspectives on PCAST, as well as their personal histories before and after their tenure on the council.

The Center for Oral History, Science History Institute (the Center) and Rice University’s Baker Institute for Public Policy (BIPP) are committed both to preserving the recording of each oral history interview in our collection and to enhancing research use of the interviews by preparing carefully edited transcripts of those recordings. The preparation of interview transcripts begins with the creation of a verbatim typescript of the recording and proceeds through review and editing by staff of the Center and BIPP; interviewees also review the typescript and can request additions, deletions, or that sections be sealed for specified periods of time. The Center keeps track of all changes that staff, interviewers, and interviewees make to the original typescript. Please contact us if you would like additional information about these materials. We have established guidelines to help us maintain fidelity to the language and meaning of each recorded interview while making minor editorial adjustments for clarity and readability. Wherever possible, we supply the full names of people, organizations, or geographical locations mentioned during the interview. We add footnotes to the transcript to provide full citations for any publications that are discussed, to point to extant oral history interviews, and to clear up misstatements or provide context for ambiguous references in the transcript. We use brackets to indicate the addition of material that was not in the audio, and bracketed ellipses to indicate the deletion of recorded material. The transcript also includes time stamps at five-minute intervals. We omit without noting most instances of verbal crutches and all instances of nonlexical utterances. We also make small grammatical corrections where necessary to communicate interview participants’ meaning. Finally, staff of the Center and BIPP create the abstract, chronology, and table of contents. With the availability of online full-text searching of our transcripts, the Center for Oral History opted to discontinue the practice of preparing a back-of-the-book index for each oral history transcript in 2020.

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**INTERVIEWERS:** David J. Caruso  
Kenneth M. Evans  
Kirstin R. W. Matthews

**ALSO PRESENT:** Daniel Morali

**LOCATION:** via Zoom

**DATE:** 5 August 2020

**CARUSO:** We'll state time and place and then we'll get into the first question. I'm David Caruso. I'm here with Shirley [Mahaley] Malcom participating in an oral history interview for the PCAST project with Rice University. Also present are Daniel [Morali], Kenny [Evans], and Kirstin [Matthews] from Rice University. We are doing this via Zoom video conferencing, and that's how we are recording things. Today is the fifth of August 2020.

So, thank you again for agreeing to participate in the oral history interview. As I mentioned, you know, we want to hear as much about your life as you're willing to share. I want to start hearing a little bit about what it was like to grow up in Birmingham, Alabama. You were born in 1946. I know that Dr. [Martin Luther] King [Jr.] once described Birmingham as the most segregated city in the United States, so I'm curious to hear not just about your experience with race in that city, but more generally about your life in that city, growing up in the forties and fifties in Birmingham. So maybe we can start with you telling me a little bit about your family parents—mother and father—if you have siblings, things along those lines.

**MALCOM:** As you said, I was born and raised in Birmingham, Alabama. My parents . . . we all lived with my grandmother because my mother had moved in with her mother when my father was drafted in World War II. She was pregnant at the time and had my sister some months after he had been in the Army and was away from home. And so it made sense to have my mother, a young baby, in with her mother in the house. And I guess . . . we never left. We were there to be able to take care of the home—house—and also to assist my grandmother as she grew older.

Yes, it was absolutely segregated. The neighborhood was totally Black. It was not necessarily one of the “nice neighborhoods.” It was called Collegeville. And if you look up Collegeville right now on Google, and put in Collegeville, Birmingham, Alabama, what will come up immediately, probably, is the fact that it is . . . that the area is highly polluted and that my old high school is a [now an EPA] Superfund site. So, the reason that I raise this is that the segregation wasn't just about being miles and miles and miles of Black people and that's all.

But it was also about the services you did or did not receive, the siting of plants or other kinds of eyesores within the community, etc.

But to get back to the early days, I always remember my grandmother in the house, and I always remember that there were adults around who cared about you and loved you, etc. My aunt and her husband lived up the street about a block-and-a-half away and we were all in and out of each other's homes all the time. I had a cousin who lived not far from my aunt, and again, we were always, kind of, in and out of each other's lives. So there was an intact family when my father got back from World War II. I think I came nine or ten months later. And so he was working in the [same] pipe shop as his father, who was a foreman, I think, in the pipe shop, and my mother was a homemaker. She had been a <T: 05 min> teacher, but during those days when women married or became pregnant that essentially . . . that they left those jobs, so she was at home. The community was poor. That's the only way that we can . . . that I can describe it. It was . . . we were probably better off than many of the people around us. For example, we had a phone, and it was a straight line as opposed to a party line. And so that's, kind of, like one signature of being . . . of having a certain amount of resources. There was a car, so that meant that you could . . . you weren't dependent on the bus because the bus . . . all the buses obviously . . . the bus did not come through the neighborhood when I was young. You had to go out to the edges of the neighborhood in order to get the bus and all of that—the public transportation—was segregated. So if your family wanted to protect you from the worst part of segregation, they were able to because that meant that if you needed to go someplace, you got in a car, not necessarily a bus. Obviously, as you get older, you were riding the buses and you were subject to the segregation that was there.

I remember going to kindergarten. I also know that my parents paid for the kindergarten. It was not a public kindergarten, and they paid for somebody to pick us up—and it was a whole bunch of us kids that went to the kindergarten. So I had the opportunity to be able to learn to read and write and count and what have you a lot sooner, at a lot younger age. As I said, we were better off than a lot of the people who were around us because of the car and the phone, but also there was a piano in the house. So again, this was like making available music lessons and other kinds of things that some other families might not have had. When we wanted books, however, the libraries were segregated. When I started school—I'm jumping around—but when I started school, there was the bookmobile. But in the summer, if you wanted to go to the library, you had to get in a car and go to the colored library because it wasn't . . . you didn't have all of these kinds of things available to you in your neighborhood.

Growing up, as I said, the family was a central part of all of our lives, and so was the church. A lot of the activities revolved around the church. My . . . I'd say that I had an interreligious family because my father was AME [African Methodist Episcopal Church] and went to a different church than my mother, who was Baptist. And my mother and grandmother belonged to Bethel Baptist Church. And I say that because that is a central historic idea because Bethel was central in terms of the early movement around civil rights. And so growing up, you know, you'd go to Sunday school, you would have different activities and events for children, you'd have the choir, you'd do poems, you'd do whatever. But that was a kind of a community affirmation of your value and your worth. And I think that is absolutely central and a central



part of my growing up. When . . . if I would go to the store, for example, and leave my home—it was this little store that was about two blocks or three blocks away—and you would know everybody on your street, and you would speak to everybody on your street and everybody on your street spoke to you. But, to a certain extent, you were watched all the way to the store and back. So we had a lot more freedom because <T: 10 min> you were known. And I think that is, that was an important part of growing up. As I indicated, I went to kindergarten, and it was a [family] paid kindergarten. So when I started elementary school, I didn't go to the first grade; I actually started in the second grade because the things that you would get in the first grade, I got in kindergarten. I was in Miss Bailey's class in second grade, and I was a good student. I was curious; I not only did the schoolwork but I read a lot when I was out of school, and I would practice writing. I loved school, and I did not enjoy being away from school. So when the summers would come, I would be, kind of, at loose ends, and that's when I tried to read and do other kinds of things on my own. Summers were lazy times, but they were also times when you . . . when I would work with my grandmother in the yard planting flowers. I remember picking figs. We had two huge fig bushes that were there, and we lived in a—I tell people we lived in—a food desert in the sense that there were no major supermarkets in our . . . in this neighborhood. It was just solid Black people without any of these major amenities or things available to us. And there were open ditches that came down through the community, but we, kind of, could roam far and wide within the community because, again, we knew people, and people would watch you, and kind of look over you. So it was like an intact community.

I went to elementary school at a place called Lewis School—I mean not Lewis, Hudson School, okay? I started at Hudson School. If you look at Hudson School now, what you will find is that modern-day Hudson School—we say it was the rebuilt version—is also a Superfund site. It has its own environmental problems, but when I went there, Hudson School was like . . . hadn't changed since my mother went to Hudson School. And so you need to understand that there were not a lot of resources that were expended on the education of Black kids. It was . . . you had teachers who were interested in making sure that you had learned, but you didn't have . . . you had libraries without a lot of books, you didn't have labs, you didn't have the kinds of things in the elementary school that might help you if you were interested in science, or what have you. So I was still at Hudson until sixth grade, and in sixth grade, I moved to Lewis School. My mother was teaching at Lewis, and so I would be able to ride with her to school because during my early years of walking to school at Hudson having my sister to walk with me—or I walk with her to Hudson School—I had a lot of respiratory problems, I had pneumonia a couple of times, etc. And so by sixth grade she had moved on to high school because there's four years' difference in our age, and it made sense for me, if possible, to go to Lewis school. The fifth grade was the last time I was at Hudson. In moving to Lewis, the school had a few more resources, but they had a very, very strong principal, who was really committed to getting the <T: 15 min> kids the best education that they possibly could have. And so I had a separate science class, I had a separate geography class, I had a separate whatever, in addition to a, kind of, a homeroom where I had the math and the English and whatever.

So, I tell people my life has basically been defined by two things. One is the launch of Sputnik, and the emphasis on science that came, and this was when I was at Lewis School. We started having real science taught and real attention to, “Well, how did that get up? How did it

escape gravity?” We began to ask real questions about the science. But the other part of my life, that I think is absolutely crucial for you to understand, was because the Civil Rights movement was in full bore in Birmingham during that time, all of the kitchen conversations were around the Civil Rights movement, and they were around voting, and they were around the things that were happening to Black people within the larger community. I remember one time when the adults were . . . you know, the kids floated around the outside of that, but when the adults were all gathered in the kitchen, and they were talking about some man who had been castrated—a Black man [Judge Edward Aaron] who had been picked up by white guys, and he was walking home at night and he was castrated, and [turpentine] was poured into his wounds. I did not know the term “castrated.” And so I went to the dictionary that was back in the back of the house and looked it up. And it did not make sense to me because castration was talked about in terms of animals. And so these kinds of disconnects were constantly coming into your life. When you’d read the paper, you’d basically see what was going on. But the paper wasn’t the major way that you got information. The church was a major way, and the [Black radio station] was a major way that you got information.

A major point in my own life was that on Christmas night of 1956, Bethel Baptist Church was bombed. And we lived only about three-and-a-half blocks from the church. Therefore, we felt the bomb blast. But when you’re ten years old and you hear and feel a bomb going off, I can’t even begin to convey to you what that means and how you experience that. Everybody awakened. I heard—I can’t remember which of my parents—I think it was my [mother]—say, “Oh my goodness. They bombed the church.” Because it’s like they knew that, given what was going on, that that was the most likely scenario to explain an explosion in the middle of the night on Christmas night. So my mother and father dressed quickly and went down to the church to see what was going on. My grandmother remained with my sister and me at the house, and we were all sitting there, like “Oh my goodness.” The phone starts ringing, you know, the people who were closer start calling you to, kind of, report on what was going on. My Aunt Bill who lived down the street had a clear view down toward the church, but she said that . . . she was talking about losing pieces of her chandelier because the blast—the direction of the blast—she would have been more impacted because she was closer, and she was on a path to be affected by the blast. Those were scary times; people were very much aware that it was dangerous, that people did not want Blacks to vote and <T: 20 min> to have any kind of rights.

I had been working with my grandmother during that time. She was trying to get ready to go down and vote. And getting ready meant preparing to take her literacy test—a legal size sheet, both sides. Who is the president, who is the vice president, who are the senators, who is your representative, and on and on and on, who are the members of the cabinet? Who are the . . . And right now, I couldn’t answer that to save my life, but she memorized all this and what have you so that she could get ready to vote. I still carry . . . After my parents died, and I was cleaning out the house, I found my mother’s poll tax receipt, and I still carry a copy of it with me as a reminder of what people went through in order to have the vote. The vote was sacred, people died for the vote, people were beaten for the vote. And it wasn’t just like on television; you could know people who were beaten for the vote and you knew people who basically went down and went through this whole process in order to get the vote. It wasn’t something that was distant and somebody told you about it; you lived through it. But once my grandmother voted

and got to the point where she could vote, she never missed voting until she died. She became a role model for the other women in her [missionary] circle. These were all seventy-something-year-olds—late sixties, seventy-something-year-old women—who met in the mission circle. But she became a role model. So they all started studying so that they could go down there and vote. And voting was a complicated issue because the polls were away, long away . . . at a distance from the house. So the community had to actually organize to be able to have cars that would take people to the polls. And so it was a massive community effort, but it was community.

Reverend [Fred L.] Shuttlesworth was the pastor at Bethel. And it was really not clear at the time that my mother and father went down to the church as to whether or not he had survived the blast. And if you ever look at the pictures of Bethel, as you can find online, you look at the pictures of Bethel and you will see that the whole front of the parsonage is basically collapsed in. The Reverend Shuttlesworth and his wife used the first bedroom. I knew the kids, and so I was in and out of the house, and so it is amazing that in fact they survived the blast. My grandmother and I went down the next morning because she wanted to see the damage to the church. And the church was, as I said, a major part of their lives, and she had been at that church, I think, since she had moved to Birmingham from Anniston, [Alabama], or Talladega, [Alabama], or someplace. And I mean her—the name Funderberg, which is her name—is actually on that cornerstone. So that shows you how embedded she was in that history and the traditions of that church. We went down to the church, and there were cameras all around by that time, and there were other people from the community who were down there. My grandmother saw Reverend Shuttlesworth, and she just went up to him and hugged him, being very happy that he was alive.

That actually became a famous picture. **<T: 25 min>** Many years later I was watching Spike Lee's *4 Little Girls*, and they were talking about earlier bombings in Birmingham. And that moment was captured in that movie. And I kept telling people, that's Mama and people—the rest of the family—said, "No. It can't be. It can't be." I said, "Yes, it is. That's Mama because I know what color that scarf was that she was wearing. And I know because I was there." So, many years later when Reverend Shuttlesworth died and they had this thing on CBS, *Hail and Farewell*, and they showed this clip.<sup>1</sup> And I said, "I told you it was Mama." It was . . . they showed this clip and then some weeks later, it was available on YouTube, so I played it back and I stopped it because you know these move so quickly, you can't . . . I stopped it. And the thing that just blew me away at that time was, yes it was grandmother. Yes, it was captured, but the picture also captured ten-year-old me standing there as this, kind of, witness to history that I could not have predicted. The reason I tell you this is that the issue of social justice and civil rights and what people went through to get those rights—it's deeply baked into me. Yes, I lived with the board on the bus. Yes, I lived with the [segregated] water fountains. Yes, I lived with the indignities and the fact that people—the police—would stop you. I lived with all of that. Yes, I lived with the schools that were separate and decidedly unequal. And I have never gotten over it, and I will just tell you that it is a lens that I have carried with me forever—for my entire life.

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<sup>1</sup> CBS News. "2011 Hail & Farewell," December 25, 2011. Accessed 21 March 2022. <https://www.youtube.com/watch?v=SeAsVrDEtR8>. Segment starts around 4:12.

So, when I went to . . . after I graduated from Lewis School, because the bombing was in '56 and Sputnik was in '57 and I finished Lewis School in '59—in May of '59—and I went to George Washington Carver High School, which was, as I said to you, now a Superfund site. But at the time, Carver was built to keep us, keep [Black] people from having to go to Phillips, which was the white school. Now, it was built in the heart of the Black neighborhood. And so it was like, okay, you don't have any excuse because even if we districted you by geography, you would end up going to Carver because it's in your neighborhood. And that's the thing that people don't tend to understand—the relationship between housing segregation and school segregation. And it was in fact that we went where we went because of where we lived, but we lived there because of the laws that in fact segregated housing. So I went to Carver. At the time, Carver only had ninth grade and half of tenth grade because they had two graduations a year. As a ninth grader, the school expanded in terms of its physical plant as well as in terms of the program—the curriculum, course of study—it expanded by our growing into the next grade.

Okay, so I was part of the first class that went all the way through Carver High School, and we had some really, really good teachers at Carver. They, I think, tended to be people who may [have been] younger and didn't have the seniority to stay wherever they had been or what have you, but they were fully committed to those of us, so that those of us <T: 30 min> who could go to college, that they . . . that we could in fact go, and that was a real good thing. We did not have, as I said, the physical plant or the . . . you know, when we had chemistry class, there was a lot of . . . they gave us a lab and a lot of . . . some of the equipment but not enough, and we didn't even have all the chemicals and sometimes when they wanted to do an experiment, some of us who wanted to take an extra load, we took chemistry at a different time—the chemistry teacher basically set up a separate time when we could come in. And one of the things that we did was to actually make the chemicals that we needed for Mr. Maull to use for all of the [other] classes because we didn't even have those chemicals. So it was a very strange kind of an education but still good in the sense that we all, kind of, felt like we were headed someplace important. I liked the science. I liked the math. I thought I was good at it. I was much better at it than I was at English, so, I decided, okay, I will do this. So this was Carver.

And as I said, the school grew over time, and a lot of the kids—even though they were coming from fairly poor backgrounds—a lot of them from that school aspired to go to college. I will just point out that one of my classmates was someone by the name of Reginald [C.] Lindsay—Judge Reginald Lindsay—he served on the courts in Massachusetts and was a good friend of Justice [Stephen G.] Breyer's. He went to college before he graduated from high school because that was an option. He went to Morehouse [College]. So, the people who came, the people who went to school with me, the people at Birmingham, the young people at that time have achieved some amazing things. And I think that it is in fact . . . my friend Richard [A.] Tapia asked me one time about how did . . . you know, what was a motivator? And I said, "George [C.] Wallace." And he laughed at me. And I said, "No, I mean, you think about it. [You've] got this guy who's saying that we're inferior, that we can't do something." The only thing you want to do is to basically prove him wrong, and it was only partially said tongue-in-cheek. We weren't good enough to go to school at the University of Alabama—at least according to him. And so this notion of proving people wrong, I think became a major thing for

all of us. I spend a lot of time on this because I think that as I go along in terms of talking about my career, you're going to wonder why I have been so adamant about educational equity and about all of these kinds of things. And it is basically . . . I'm a product. I'm a product of my times—whatever was included in those times—that's who I am. I graduated from Carver in May of 1963, which was a year early. I was only sixteen at the time because, remember, I skipped the first grade.

**CARUSO:** Before we . . .

**MALCOM:** So, you want to stop me? Okay.

**CARUSO:** Yeah, I just wanted to ask a couple of clarifying questions because you've touched on a lot of interesting material. What I wanted to start with you mentioned living with your grandmother; your mother moved in when your father was drafted into World War II. I was just curious. Had your grandmother been working prior to your mother moving in, and if <T: 35 min> so, what did . . .

**MALCOM:** My grandmother never worked outside of the home.

**CARUSO:** Okay, so she was a . . .

**MALCOM:** She never worked outside of the home. Her husband had been a fireman on the railroad which was a “good job,” and therefore, she did not have to work outside of the home.

**CARUSO:** So, yeah, your maternal grandfather passed away . . .

**MALCOM:** Before I was born.

**CARUSO:** What about before your older sister was born, too?

**MALCOM:** No, my sister was born in 1942.

**CARUSO:** Right.

**MALCOM:** Okay, that's when my father went to World War II.

**CARUSO:** Right, was your grandfather's still alive then, or had he passed?

**MALCOM:** Yes. He passed two years later.

**CARUSO:** You also mentioned that your mother was a teacher. Was there a specific grade level that she taught at? Was it elementary, middle, high school?

**MALCOM:** Well, the thing is that my mother had gone to Tuskegee [University] as a young woman. And she went, and I guess you would call that she took a "normal school" education—that is two years that prepared her to teach. So she had taught. She married. She still taught, I think. And then when she became pregnant, she had to stop, and so she stopped teaching. During the time that my mother . . . during the time when I was in elementary school at Hudson, my mother used to be a substitute teacher. But that was a pretty rough gig in the sense of you didn't make very much money and you had no benefits. And so she realized and knew that she was going to have to go back to school, so my mother went back to school, went back to college to get those other two years so that she could teach because the requirements had changed while she had been out of the system. So she went to Miles College. She had been . . . she gotten the two years at Tuskegee, and then she went to Miles.

**CARUSO:** Roughly how old were you when she went to Miles College?

**MALCOM:** That was when I was in the fourth and fifth grade. The reason that I know this is that I used to help her study and she had a health class that she had to take. And one of the things in the health class was about the circulation of the blood. So I'd hold the paper for her while she did it, and I learned it at the same time. So, I mean, it makes a big impression on you when you're a kid and you see your mother studying and you help your mother and you study with your mother. I think that the idea that she really needed to go back to school so that she could be a regular teacher really came at the time when, I guess, it was about the third or fourth grade when my father started to have back problems related from his service in the military. And so he went into the hospital—the VA [Veterans Affairs] hospital—but he had to go to Tuskegee because that's where the Black hospital was. Now the white hospital was right across town in Birmingham, but he couldn't go there, all right? My mother had to . . . in that case, my grandfather—my dad's father was alive—and he would drive her to Tuskegee to go see his son. We couldn't . . . we didn't go. It was a rule that you had to be I think twelve or something like this. My sister was twelve, but I was eight, and [my mother] just didn't want to make that kind of a difference.

So my father was away from the family. During that time, my mother was heavy into the substitute teaching thing because that was the only money coming into the family except what my grandmother might have had from her [widow's] pension coming into the house. And I remember at that time that [my mother] had three blouses and two skirts, and she'd have to wash in the middle of the week in order to make sure that she had the clothes to serve as <T: 40 min> a substitute teacher. So while I talked about the phone and the car and what have you, you also need to understand that there were no frills; everybody lived on the edge of poverty and if extra food was around, they brought it into the house because that's the only way you could actually make do. But I think that the understanding that during that time my dad was away from the home . . . and that was all because of segregation. Essentially . . . we could not go to the closest . . . he could not go to the closest VA hospital and so that meant that the family was torn apart in terms of being able to see the kids, know about the kids, being able to access, getting [to] and visiting my father, etc., etc. That was a strong incentive for my mother to go back to school. So as soon as my father was able to work again, come back [home] again, you get the money, you go back to school because being able to be hired as a regular teacher as opposed to a substitute teacher was a big difference in money. But there was also, I think, the appreciation of the fact that we were getting older. And so if we were going to go to college, somebody had to try to figure out how to make that happen.

So my mother was a third grade school teacher, and she . . . I tell people that there was no student who ever left my mother's class who couldn't read. She was absolutely convinced, given the demographics of the community around her, that if she did not teach these kids to read and get them the skills that they needed that they had no shot at having any kind of a life. But that also meant that she cared more . . . she cared about more than just their learning. When kids had like a . . . had absences from the classroom, she would drive to their homes to find out why the kids had not been in school. And some cases, it was as simple—the kid was not sick—it was as simple as all the kids sleep in the bed together, the younger ones pee in the bed—excuse my French, but that's part of the reality—so the . . . if they sleep in their clothes, they didn't have a change of clothes, they couldn't get to school. I remember her collecting clothing from other family members who . . . where [their] kids had outgrown their clothing so that she could basically take clothing in to the kids. And she said to my father, my grandmother, and to the cousins that she got the clothes from, "If these kids don't get an education, they don't have a chance." And that was a major focus of the way that she thought about the children that were there. In some cases, they didn't have shoes, and I remember in one case where the kid did not have shoes and the [child's] mom said, "Well, we can't buy shoes until the check comes." Whatever the welfare, whatever the check was. And I remember my mother and father going and picking up the kid on Saturday—because I went with them—picking up the kid on Saturday, taking him to the shoe store, buying him shoes so he could come to school.

There were kids that . . . this was before the school lunch program, and there were kids who were hungry in the middle of the day. I remember later on making my mother these huge lunches—while my mother never ate that much. Okay, I was like, "What in the world is she doing with all this food?" And it was like . . . she was like, "Oh, you know, Shirley packed me too much food." I was in high school. <T: 45 min> "She packed me too much food. Wouldn't



you like to eat this other sandwich?” So that it wasn’t charity; it was like you were doing me a favor for getting rid of this food that my daughter should not have put in the bag in the first place. I remember all these things. I remember this notion that she had that if they didn’t have an education, that they had no chance—no chance in life. I used to help her by, like, doing all of her artwork for her bulletin boards and for what have you. I used to grade some papers for her because she went above and beyond. She had large classes. But she was . . . she treated the kids as individuals and tried to address their own individual needs.

**CARUSO:** In addition to . . . thank you for telling us a bit more about your mom. I also wanted to ask about your father. What branch of the military did he serve in?

**MALCOM:** He was in the Army, and he served in the Pacific. I think he got up to the level of, like, Staff Sergeant. When he came back from the military, it was hard to be able to use your GI Bill, but he went to . . . used it in business school. He never started a business, but he always had a good sense of like, around the issue of managing finances and what have you. The other thing is that he was really, really good at mathematics. And I remember we used to have these games that we would do at the kitchen table. There was a big L&N [Louisville & Nashville] calendar on the wall that was facing . . . you’d go into the kitchen and the table was right there but facing the . . . on the other wall that was a big L&N calendar—L&N railroad—and it had January through May and then it had June, July, then it had August through December, I think, on the calendar. He’d say things like, “Can you add all of the Sundays on this side?” And so this . . . you’re doing this mental math, and it was like a game; it wasn’t a chore. It was a game. And so I think helping to, kind of, think through and adding differently and things like this was an embedded part of the day-to-day of the family.

**CARUSO:** Did he ever talk about his war-time experiences either when you were a child or when you were older?

**MALCOM:** Sorry. You want to say that again?

**CARUSO:** Did he ever talk about his war-time experiences either when you were a child or when you’re older—what he was doing in the military? You mentioned that he was in the Pacific but anything more detailed than where he was located?

**MALCOM:** Not really. I think that he talked about the . . . The major thing he talked about was the fact that he was still in the US at the time my sister was born, but he was not given permission to come back home long enough to see her. He talked about some time spent in Australia, New Guinea. But pretty much, not a lot. Some . . . in his old age, one of the kids up the street came and interviewed him about being in World War II, and I read the piece that the

kid had done. And it said something like fighting in the war, to a certain extent, didn't make a lot of sense to him <T: 50 min> because the Japanese had never done anything to him. So while the country may be at war with somebody, if you stop and think about it from his perspective, the Japanese had never done anything to him, but people in the US had. So the, kind of being born Black in America was a lot more impactful on . . . in terms of the things that he had to encounter. So, you know, kind of, separating those pieces.

My sister was four years older, and that was too big of a gulf. We really didn't come to know each other until we were adults. I was in elementary school; she was in high school. I was in high school; she was in college. So it was a very difficult, kind of, a thing to be in terms of coming to know her. She became a teacher, like my mother. She lived in . . . she . . . in 1962 when she went with my grandmother to Seattle, [Washington], she remained in Seattle, because there were not the opportunities to do anything in Birmingham because she was only like nineteen or barely twenty and she couldn't even teach yet. And so by remaining in Seattle, she was able to get a job, I think, at the phone company and then later was able to get a teaching job, and she taught special education. But her presence in Seattle was part of the reason that I went to the University of Washington. I had an uncle and aunt there as well. When I graduated from high school, I knew that I wanted to go into the sciences and at the time, the only science that—the only thing that I thought that you could do with science—was medicine. And so I got into my head that I wanted to be a medical doctor, so I went to the University of Washington as a premed major. University of Washington was the only school I applied to; you think about that now, a kid going into college, and they only applied to one institution. It doesn't make any sense. I had a sense that I could get in. I had a 4.0 grade point average out of high school, I was valedictorian of my class, I was involved with everything. I mean, choir—I was student conductor of the choir—I was the chair . . . I was the president of the Girl Scout Council because we . . . in our school, we had multiple troops in terms of senior troops. And I thought I could get in, but, you know, you never know. I mean, so, kind of like I was . . . I didn't even know I was taking a chance. But in any case, I got into the University of Washington as a premed major. That was a huge, huge shift because I went from an all-Black neighborhood to an all-white school for the most . . . [audio difficulties]

**CARUSO:** I'm having a problem with the connection. Is anyone else?

**EVANS:** Yes.

**CARUSO:** Okay.

**EVANS:** I think she might have timed out.

**CARUSO:** Okay. I guess, pause the recording.

**MALCOM:** Okay. All right. So I think I was in my residence.

**CARUSO:** Oh no. Paused again. Okay.

**MALCOM:** All right. <T: 55 min>

**CARUSO:** All right, so you were starting to talk about your experiences at the University of Washington, which I definitely want to hear more about. I just wanted to follow up with one other item. You did mention Sputnik and that being an impactful part of your life. I wanted to hear just a little bit more—both about why you found it impactful but also how did you actually experience it. Was that something that you were hearing on the radio . . .

**MALCOM:** It was everywhere. That's the . . . one of the things that I think that people don't really understand—how absolutely Sputnik took over everybody's imagination. It was on the top-fold of the newspaper, it was on television, it was on the radio, it was everywhere. It was, kind of, being touted as, "Oops, the Russians are coming." At that time, the Soviets. Then it was, "We have been careless; we're not really building the math, science capacity." That meant that our teachers were able to go and get professional development, they were able to learn more, they were able to . . . so you were having, you were getting the social influence—okay?—the societal influence—"you ought to be caring about this"—and you're getting the impact on the teachers who were able to improve their own instruction because of this, and that was coming at you. Then you were getting the "Do the patriotic thing and become a science person." So it was like coming at you from all directions, and it was not a differentiated message. It didn't say, "You over here, white kid, become a scientist." It was like, "Everybody become a scientist." And that was . . . having that, kind of, undifferentiated message that means that I could put myself into that messaging as well. But as I said before in elementary school, it meant that a lot of our instruction was focused around it. We were curious. We wanted to know. How could something escape the gravitational pull of the earth? How fast did it have to be going? What was it that we knew? Why did it go into orbit? I mean, it's like it just went on and on and on. And it kind of captured all of our imaginations. And I think that because of that and because I was interested and good at math and science, that explains the premed at the University of Washington.

**CARUSO:** Was it . . . so I've spoken to a lot of individuals about their experiences growing up and what I'm curious to know is, I mean, it sounds like your family was very education oriented. Your mother was a teacher; your father did go for the business degree . . . Was it . . .

**MALCOM:** Not a degree; he didn't finish the degree, but he went to business college, yes.

**CARUSO:** Was it just naturally expected that you were going to be going to college? Was it ever actually discussed in the home, or was it just you knew you were going to be going and you knew that your parents wanted you to go to college?

**MALCOM:** Okay, I had a freeze moment. Was it naturally expected what—that we would go to college?

**CARUSO:** That you would go to college.

**MALCOM:** Yes. Yes. Yes, it was. My cousins went to college. It was just naturally expected. I mean, this was not a question of, “Will you do this?” It was a question of, “Where will you do this?” All right?

**CARUSO:** And also what I'm curious to know is you did talk a bit about and you're growing up in a time when politics, rights are important discussions. Was there ever any push for you to go into a specific type of academic discipline? You mentioned that you had one high school classmate—Reginald Lindsay—who wound up going into law, for example, and I could see the strong connections between that time and wanting to, you know, change the laws of the United States. Was there ever outside pressure from your parents or from those in your community to say, look, you know, <T: 60 min> you need to go into this profession or people from our community need to go into these professions because of the social, cultural . . .

**MALCOM:** No.

**CARUSO:** No? Okay.

**MALCOM:** It was, “Okay, it's up to you.” I declared pretty early premed, and that was fine with them even though I ended up not following through, it was still fine with them. Now I must tell you that was, like, my immediate family. I did have an uncle who, after about four years in graduate school, [was] wondering was I ever going to finish and why didn't I just come home and be a teacher like my mother, and my aunts, etc. But my father kind of disabused him of that, “Uncle Jerry, I mean, you're not paying for any of it so . . .” [laughter]

**CARUSO:** So prior to going to the University of Washington in Seattle, had you traveled much outside of Birmingham?

**MALCOM:** Well, yes, I mean you travel to visit family. I had an uncle and aunt in Michigan, I had an aunt and uncle and cousins in Philadelphia, [Pennsylvania]. You know, I had been to Seattle before because I would travel with my grandmother and in that case, it was mostly train travel, and you will understand that this was a major issue for me because I get train sick, and so that's a long trip to be train sick. But that was the deal that you got train sick so that you could go to Seattle, but . . . [laughter] You know, it wasn't a lot, but it was enough that you knew that there was a bigger world that was out there, and there was a world that didn't look like Birmingham that was out there. And I think that was really critically important that you understand that not every place was like Birmingham because one of the things that you . . . that I didn't go into—and I'm actually surprised you didn't raise it—I graduated from high school in 1963. That was the year of the Children's March. Our high school got shut down during part of that time because the children basically—some of the ones who lived closer to town—were in the march and went to jail. Then this was all in an uproar, and the Board of Education expelled en masse all the kids who had gotten arrested. And Dr. King went to court in Atlanta, [Georgia], to have that judgment set aside so that the kids who were slated to graduate could in fact graduate.

The whole question of the . . . you know, we would sit, for example, during the whole thing with regard to celebration of John Lewis's life, we would sit there, I sat there, and I remembered when the bus was attacked on the way from Anniston, I remembered how people were beaten when they got to the bus station in Birmingham. You know, so it wasn't like that was someplace way away. No, that was down the street. That was immediate. The Children's March was immediate. The hoses and dogs were immediate, and they were known to us because Bull [Eugene] Connor was a known entity in terms of his . . . the hold that he had over the police and the fire department. And this gets back to the story—to an important story—about Black voter power because by that time, there had been sufficient numbers of people registering and what have you, that the numbers were significant enough to count. And there was the assessment that the only way they were going to get Bull Connor out of office was to change the form of government from commissioner form to mayor council form and to basically defang him with a . . . actually a political strategy. <T: 65 min> And they made that choice to move to mayor council away from commissioner and therefore to take him out of the mix in terms of the hold that he had because things wouldn't have changed as quickly. But all of these elements were in play at the time. I mean, Birmingham was the epicenter of all of this in terms of the movement for Civil Rights in the sixties, in '63 and before, because the notion was if we could do it in Birmingham, we can do it anywhere because Birmingham was so bad.

**CARUSO:** And it's . . . correct me if I'm wrong, it's just a . . . soon after you left for college—right?—that there was the 16th Street church bombing?

**MALCOM:** Yes. I tell people when I first heard the church had been bombed, I was in Seattle. I was stunned because the Bethel had been bombed three times by that time. The second one, they found it before it went off [near the church], but the third one was my senior year in high school. And I heard that the church had been bombed, and I was in Seattle with my grandmother, but my mother was still in Birmingham, and it's like I had this horrible moment. Was my . . . was it my mother? And then I heard it was 16th Street rather than Bethel, and there's this, kind of, sigh of relief and then there is this incredible shame that came over me because I should not be relieved that it was 16th Street, rather than Bethel. And that somebodies—somebody—died. In this particular case, the somebodies hit real close to home. My mother's principal's daughter died in that bombing. My aunt was the principal's secretary. And so this was not . . . this was, kind of, like family. This wasn't like just, kind of, people that you just hear the names. But Cynthia Wesley was the adopted daughter of her principal and so absorbing all of this, that in fact that the struggle continued even as I'm moving away into a different phase of my life, the struggle is still going on.

**CARUSO:** And you said you were . . . your grandmother went with you to Seattle?

**MALCOM:** I went with her, yes. [laughter]

**CARUSO:** You also mentioned that you were essentially going to an all-white or mostly all-white university when this happened—the bombing happened—were there any other Black students there? Did you have anyone . . .

**MALCOM:** I wasn't on campus yet.

**CARUSO:** You weren't on campus yet?

**MALCOM:** The University of Washington didn't really start up until the last week in September, and this was like mid-September, so I wasn't on campus yet. By the time I reached . . . I was on campus; I don't think that any of this was on the radar of any of the freshmen around me. This wasn't what they thought about; this was not a life they had grown up in. And I always found that it was really kind of bizarre that I was one of the youngest ones around, you know, in my dorm and class and what have [you] . . . but I felt older because of what I had gone through. They felt immature and unseasoned and naive, in a lot of ways. <T: 70 min> And I felt old.

**CARUSO:** You had just turned seventeen, right?

**MALCOM:** Yes.

**CARUSO:** When college started and most of the other students were already eighteen, nineteen?

**MALCOM:** Yes. Eighteen, yes.

**CARUSO:** Are there other items about your early life that we haven't spoken about that you'd like to discuss?

**MALCOM:** No, I think that situates you . . . that gets me to the University of Washington because one of the things that you need to know about the University of Washington was number one, I was quite isolated in terms of [having] gone from a Black community to a white community. But it wasn't just a white community. It was also a community with a number of Asians and Alaska Natives and other groups. I think that that for the first time that I started to see the world—and international students—I started to see the world in other than Black and white. And I think that was an . . . that was an important part for me. The other thing was that I had no expectation that I was going to do as well at the University of Washington as I had done in high school. I knew that people had better educations than I had. When I went to my advisor—my premed advisor—that's when I began to understand that I was likely to also encounter gender discrimination because she said flat out that it was going to be hard for me to get into medical school because women . . . they only took about—the classes were about ten percent women—so I was going to have to be better in order to get in. Imagine when you're seventeen years old and that's the first thing somebody tells you. So, she lines up my classes that I needed to take. At that point, that's when I started to encounter issues. My . . . let's see . . . my mathematics class, I did okay. They got through the stuff that I'd had before real quick. My chemistry class, I did okay; I got an A in chemistry. This was chemistry lecture. English was an interesting situation because the first assignment, I think, we got we had to write about ourselves, our background, Birmingham, etc., and the English teacher was like . . . she was surprised that I was even semi-literate since I had . . . was a Black person from Birmingham. That's when I started to understand and get an inkling of geographic bias, okay? So . . .

**CARUSO:** So, your impression was that it was geographic, not racial? So it wasn't that she was making an assumption about you because of the color of your skin . . .

**MALCOM:** No, she was making both of the assumptions—both geographic and racial. So by the end of my freshman year, I think that I . . . early on I took a speech class. And we had to tape and what have you and I said, “Oh my goodness,” because the first thing that I realized is that I had this slow drawl like most Southerners of that time did. And I thought, “I don't sound very



smart.” And so in my speech class, I had to . . . I concentrated on sharpening my vowels and not drawling because people made assumptions—the bias was that you were not very smart if you had the Southern accent. And you know, I had enough strikes against me. I didn’t need that one. I mean, that was the way <T: 75 min> that I viewed the world. The other thing, too, is that my . . . it was pretty clear that I wasn’t a strong writer. But I had to work on it. I knew I had to work on it, so, you know, you work on the things that you know that you have to work on. So that’s what I worked on.

**CARUSO:** You mentioned that your undergraduate advisor was a woman as well?

**MALCOM:** I’m sorry. What?

**CARUSO:** You mentioned that your undergraduate advisor, the one who lined up your premed classes was a woman, correct?

**MALCOM:** Yes, yes.

**CARUSO:** What was she a professor of?

**MALCOM:** She wasn’t. She was basically an academic advisor because when you’re a freshman you just get an academic advisor. Once I declared a major in the zoology department, I got a faculty member as my advisor, and it was a good thing too, because he was wonderful and supportive and what have you. I think that she had maybe been a premed major who hadn’t gotten in and that there was a bitterness and an edge that I always detected in my interactions with her, so why should I be surprised, right?

**CARUSO:** Yeah. And if I recall correctly, there are some major institutions in the US at the time that still weren’t admitting women as undergraduates. I think, Johns Hopkins, it wasn’t until later in the sixties. Maybe I have the date wrong where you might be a graduate of . . .

**MALCOM:** Princeton [University], Harvard [University], I mean they had Radcliffe [College] there, and there was a lot of intermingling of the classes, but Harvard, Yale [University], Princeton, Caltech [California Institute of Technology].

**CARUSO:** Graduate schools were different, but undergraduate institutions.

**MALCOM:** Yes. All I'm saying is that I think that understanding that the time that I came through that bias, because of a lot of stuff, could in fact shape your opportunity structures. That's an important issue to focus on. As I went through my classes, etc., I had a lot of problems that second quarter of my freshman year because I almost failed chemistry lab. I told you I'd gotten an A in chemistry lecture the quarter before but chemistry lab I saw equipment I'd never seen before. And I . . . you know, I don't mind telling you on my first quiz, I got a nine out of twenty. On my second quiz, I got a seven out of twenty. That is not the right direction, and I will say that to anybody. So I went to my TA [teaching assistant] and asked for help, and he was the only African American graduate student in chemistry in the university. I had to first convince him I was not dumb—that I was underprepared, I'd gone to under-resourced schools, etc., so that he could give me the help that I needed to, kind of, get through this. I mean, if I had failed that course, that would not have been good. I probably wouldn't be here today. Even though it was just a one credit course because it's not about the credit level of the course. It's about what that says about me and my ability to handle work. And so he was able to help me, I was able to overcome, and I persisted and was able to get through that. But again, I had this premed advisor who was telling me these grades were not good enough—even if they were B's with some A's thrown in—that they were not going to be good enough in order to get me into medical school because I needed better grades than the guys who were in my class. That's what she was saying to me. So, I was actually even confronted by one of the guys in my class when I was in a comparative anatomy class and you spent a lot of time in lab, and I was in lab and I was going from the animal room into the dissection room and his comment: "Why do you want to go to medical school? Don't you realize you're going to be taking a man's place?" And I said something like, "Well, it's only his place if he earns it." Because as far as I was concerned, <**T: 80 min**> you know, I was starting to get to the point where I didn't know if I could spend four more years with these people. I mean, they were cutthroat, and they were disrespectful, and I just had not been used to that.

**CARUSO:** How many other women were there in the premed program in your entering class?

**MALCOM:** There were there were a number of women who came in, but they started falling by the wayside. Even the women who were in any of the science programs, they started falling by the wayside. Most of the women who were in my dorm were in more traditional fields. They were in education; they were in nursing. They may have been in dental hygiene, you know, whatever it was, but not so much in like a heavy-duty science or engineering or whatever it was program because it was quite clear—the messaging to women at that time was quite clear—this is not for you. And in some cases, it was even worse. I had a friend who was a premed major and she became engaged to another premed major and she decided that she would forego her ambitions and get a teaching certificate so that she could work while—after they married—and pay his way . . . pay for his education for his medical education. Senior year he dumped her. She couldn't recover. She didn't recover. So she stayed on the track that she had been on. I mean, it was . . . it's wonderful the world got a great teacher but not if she wanted a different life, and I say this to you because it's important that you understand that for women, it was like this was an

option for you to get an education and have a career and what have you. But I began to understand that these were pressures on white women, not on Black women. Black women always knew we had to work; we always . . . we never thought that we were going to basically slide through after we married the doctor or whatever it was. And so it did not deter me from the notion that I better keep going. This thing of if I don't get an education, I don't have a chance—it was baked in. And so, yes, I did change my major to zoology; I changed it away from premed, but I tell people I didn't wake up until after I had taken the MCATs and then I had [to turn] around and take the GREs so maybe I should have awakened [. . .] sooner so that I wasn't subjecting myself to that. [laughter]

**CARUSO:** During your first year I mean you're describing a situation where you're . . . some of the classes while you had some preparation for them in high school and earlier, you did need to spend a bit more time to kind of get on par or catch up to some of the material that was being taught. I'm curious. Did you have . . . you also mentioned kind of a . . . what sounded like a robust extracurricular life during high school, right? Activities that you were doing that, you know . . . part of the community, part of this . . . were you engaging in similar extracurricular activities during your freshman year? Did you have time for that? Was there a choir on campus? Were you associated . . . ?

**MALCOM:** Yes, I sang in the choir on campus, okay? I sang in the choir on campus. That was the thing to, kind of, keep you sane. All right. I could take it for credit, so it wasn't like I was just doing it for fun, and I was involved in the activities within the dorm. But yes, you're right. I basically had to catch up and keep up <T: 85 min> at the same time. And that was a grueling pace. But the further I got in my . . . the further I got in school, the less catch up and keep up. I went through, so I was catching up.

**CARUSO:** Were you able to find a church that you . . . you mentioned you had family in Seattle. Did you wind up going to the same church that your family . . . ?

**MALCOM:** No, they went to church over in the Central District; I would just basically just go around the corner. It wasn't like . . . I couldn't spare the time, you know, their church went on and on and on. It was a hit and run—okay? It was like, "All right. Okay, I've got to spend the time in the library." I do have a funny library story. I spent a lot of time in the undergraduate library. When I was started at UW and most of the other Black kids were there were actually commuting, right? So one of the commuting kids came up to me, introduced himself, I introduced myself. And he says, "I never see you at the HUB." And I was like, "The HUB, you know, Husky Union Building." He said, "Yeah, the Black kids or the Black commuter kids would, kind of, meet up at the HUB and what have you." And I said, "I don't have time for the HUB. I'm a premed major. I do not have time for the HUB." So, "Oh, come on, you got to come and meet the kids." I think I went one time and realized I didn't have time for the HUB. So third quarter [of] my freshman year, he comes back. He says, "You were right to stay at the library."

He says, “I’m on probation.” [laughter] He eventually came back to the university, finished up his degree. He was a major figure in the whole Civil Rights movement at the university and was a long time King County Commissioner by the name of Larry Gossett. But I laugh about this and he just said, “Oh, you were right to stay in the library.” Because I just . . . my course of study was so rigorous. It was like science and math every single term, and you got to basically . . . you could not get behind. And so this was my story.

By the time I was a junior, there was more space in my life to be able to do extracurricular stuff. I was elected to the Board of Control from the residence halls and served on the Board of Control of the Associated Students at the University of Washington. I served on different kinds of clubs and committees and what have you. And yes, wherever I went, I was the only one. But by that time, I had just, kind of, accepted that that was part of the bargain that I signed up for. But it was isolating. So what I did in my junior year is that I reached out—well—to join a sorority of African American women. It was a mixed chapter—part of it was alumni, part of was students—and there were not enough students on my own campus and so they had students from Seattle University as well as University of Washington with the alumni chapter. But sororities—Black sororities—are different from white sororities. There were white sororities on campus and white fraternities on campus, but it was a very, very heavy social and social networking function. Black sororities are very service-oriented and therefore it’s like, “What are you going to do with these . . . to help these kids or with this particular initiative or what have you?” So that’s when I joined Delta Sigma Theta Sorority, and I met some absolutely amazing women <T: 90 min> in that mixed chapter, including a founder of Delta. Delta was founded on Howard University campus and one of the members of the Delta chapter was Bertha Pitts Campbell, who was one of the founders, and one of the people in that chapter was Mona Humphries Bailey, who became a president—national president of Delta—and also very high up in the Education Department of Washington State. So you were meeting people who were role models, as it were, of Black women achievement at a time when you probably needed a reaffirmation of the fact that you can make a difference in the world, you could . . . whatever it was. So that’s my . . . that was my foray into all of my extracurricular stuff.

**CARUSO:** What did you do during the summers after your freshman, sophomore, junior years? Did you stay in Seattle, or did you go back home?

**MALCOM:** For the most part, I stayed in Seattle. Went to summer school. One of the things that I should say is that the requirements that you needed to fulfill for premed were pretty . . . it’s a lot. And then when you shift . . . if you shift majors, you then have to make up the requirements of the majors. So I graduated with way more credits than were required to graduate because of having to satisfy the institutional requirements, the college requirements, College of Arts and Sciences requirements, the premed requirements and then the departmental requirements. But I . . . you know, I don’t regret it. I received an incredible liberal arts education. I ended up probably a lot more . . . with a lot more, kind of, expansive thinking about things than I would have if I was just a straight science major with no looking to the left or right. I remember though when I took a class in my junior year—political theory—and I found out

from the political science majors that I knew that they avoided that class and took it only at the last minute. And that was the only poli sci class I ever took, and they thought I was crazy because it was a difficult class—they thought of it as a difficult class. I thought of it as an interesting class—but that was one of the first times I actually encountered the fact that the lenses through which I viewed the world was so different from other people. I wrote my paper on the rule by the majority and the rights of the minority. My lens was the rights of the minority—didn't fit the professor's lens. [laughter] I mean, it was the kind of thing where I took courses to try to help me make sense of my world.

I took a theories of race course when I was a freshman because if my whole life had been defined by Black and white, I wanted to understand what was going on. This was an anthropology course. And that's when you began to understand that really there's no such thing [as race]. There is human variation. They had to think very differently about this, you know. I didn't have the words to really be able to understand all of what he was saying, all of what the professor was trying to impart at that time; I do now. I now understand the issues of the social construction of race; I do now understand the issues of how much biology is really about population; it's not about—it's about place; it's not about race. And **<T: 95 min>** so this whole, kind of, a construction of my own frame of the world basically guided a lot of the choices that I made when I had to take X number of social science courses or X number of this kind of courses or whatever. I will tell you that in some cases, I did encounter white students who wanted to understand the background I was bringing. For the most part, there was not a lot of curiosity, but in one case—well, a couple of cases—in one case, this friend of mine said, “You know the South. We keep reading all this stuff in the South, you know, and it can't be as bad as they say.” I looked at him and was like, “How bad do they say it is? Want to hear my stories? Want to hear about being subjected to bombing when you're ten?” And it was like . . . he says to this day, that it was an awakening for him, and I . . . he became a very famous lawyer in Seattle, and he said that was his . . . that was the beginning of his epiphany. And I do think that part of the real challenge is that everybody's lives are so separated, and I had stereotypes—stereotypical views of what whites were like. But I had to kind of disabuse myself of the fact that not everybody was like that, that people were different, and that I had to essentially take people as they came and not put them into a basket. But then asking that people take me as I came and not putting me into a basket.

**CARUSO:** You mentioned your switch in majors. What year did you become a zoology major?

**MALCOM:** I became a zoology major in nineteen . . . late '65.

**CARUSO:** So your junior year?

**MALCOM:** I graduated in '67, but I didn't . . . I had planned . . . you had to take a major, but I was zoology and premed until '66 and that senior year I dropped the idea of medical school

and was just straight zoology. This was one of the cases of where I went to see my advisor and he . . . I said, “I know I don’t want to go to medical school. I don’t know what the options are.” And he said, “What about graduate school? You know, what about academic science?” And it was like, “Oh, okay.” I had never thought about it, but I really respected this guy. I mean, and he was wonderful. My feeling was he had given me permission to do this, and he moved me over into the departmental honors program so that I could start doing seminars and other kinds of things where I was . . . had to do more research and what have you. And he gave me a recommendation to UCLA [University of California, Los Angeles]; again, dummy me, apply to one graduate program. I mean, our relationship continues to this day. If you can imagine, I gave the Commencement Address to the biology program graduates a couple years ago—I guess it was in 2018, right?—because they wanted me to do it the fiftieth anniversary of when I had graduated from that program—but I had a commitment to be out of the country. So I did it the next year. And he introduced me. You know, he’s emeritus, but he is alive and well, and he was so pleased.<sup>2</sup> The thing that is really interesting <T: 100 min> is that he had a lot of students that went through his hand, and I always had the feeling that he was probably more proud of me than the ones who went through his hands and became professors because I was kind of a . . . I was a wild card. [laughter]

**CARUSO:** So what . . . so you switch to this new major, your advisor—what was his name? What is his name?

**MALCOM:** Alan [J.] Kohn.

**CARUSO:** So Professor Kohn suggests going on to graduate school. Did you have at that point in time a sense of what it what a graduate degree in science would do for you?

**MALCOM:** No, none whatsoever. None whatsoever. The only thing I knew that you could do with it [was] you could teach in college, and you could do research and teach in a college. I mean, I’ve been exposed to enough to that part of it, and there were graduate students around us all the time. So that sounded like that worked, you know. And the kind of life that you saw wasn’t bad, and they were always asking and answering interesting questions. [laughter] Sounded good.

**CARUSO:** So, after you switched to major, you mentioned being brought into the honor section to allow you to get access to some of these other courses and research. Were you doing research work outside of your normal coursework? Like were you going to . . .

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<sup>2</sup> Alan J. Kohn died in 2022.

**MALCOM:** I was not doing research. I had not made the switch early enough to get into somebody's research program or into somebody's lab or into somebody's field [work]. The research that we were doing was like, "Okay, we're trying to explore interesting questions," and you were, like, doing journal-related research to try to articulate what were kind of . . . what research questions you might want to ask. I really did not do real, real, real, real research until I was able to get into graduate school.

**CARUSO:** So did Dr. Kohn tell you why he thought you should go to UCLA?

**MALCOM:** He did not suggest UCLA. When I was looking around at programs, I looked at institutions on the West Coast; I still did not want to go back into the South. And so as I looked at institutions on the West Coast, UCLA looked interesting to me and so that's where I applied, and I was fortunate to get in.

**CARUSO:** What did your family think about your decision not to pursue a career in medicine?

**MALCOM:** They were okay with it. Their notion was, "Okay. All right, if that's what you want." That was always the thing—if that's what you want. I mean, they . . . I think that they trusted me to have a sense of self and of direction. And even though I was young—I told you I was young, but I was old—so I . . . they were okay. No, they weren't thrilled with my still being that far away from home. But on the other hand, they were accepting of the idea that you go where the opportunities are.

**CARUSO:** So you—

**MALCOM:** My sister had married by that time; she was still on the West Coast, but she was in Northern California.

**CARUSO:** So you graduated from Washington in 1967. And right after graduation, did you head straight out to Los Angeles, [California]?

**MALCOM:** Yes . . . no, I basically went to Birmingham for a couple weeks and then I moved and went straight to Los Angeles.

**CARUSO:** How was it transitioning from Seattle to LA?

**MALCOM:** To Los Angeles?

**CARUSO:** Yeah.

**MALCOM:** It was different. Seattle—the pace of Seattle was so different from the pace of Los Angeles. It's like in Los Angeles everybody wanted to be a star, you know, and everyone like . . . it was just <T: 105 min> all over the place. But I mean, it was fine. By that time, I had gotten used to being in non-diverse environments. This was again diverse, but a different kind of diverse. I was fine. I went into a zoology department where there was one other Black woman who was a graduate student, but never faculty, you know. I tell people I've never had faculty who were Black. I had to . . . I was put in the position of having to become something I had never seen. But it was all right. I mean, I had to start off with coursework, I met with my committee early on, I had to start with coursework in order to fill in what they perceived I needed that I had not gotten from Washington. Because as I said, when you make that switch at the last minute, then you . . . there have been some things that maybe you hadn't gotten. I was a TA and so I . . . but I had been a TA at Washington, even as a senior. The graduate students, a lot of them were in ecology and they went to Woods Hole—I mean not Woods Hole—what am I talking about?—they went to Friday Harbor. Wrong coast. [laughter] They went to Friday Harbor for the summer so they could do their research . . . spring and summer so they could do their research. So this left gaping holes in the group of people who were available to TA, so they used their seniors—especially their seniors from their honors program—to fill in and teach. And so I had the opportunity as a senior and then I remained during the summer to TA as well. But I had graduated from the university and so I had to be admitted to graduate school at the University of Washington in order to TA. So I decided, “Okay, since I've been admitted to the university and I don't have to pay tuition that I would take a class in addition to TA.” So it worked. It worked. I took an ecology class because that's what was really prominent and strong at the university. So I did that.

**CARUSO:** You were at UCLA for one year. Is that correct?

**MALCOM:** No, I was at UCLA until 1970, I think. Wait, wait, let me think. I got my master's very quickly because I went to stay with my sister during the summer; she was pregnant and by herself and so I—because her husband was a football player and he had to go to training camp—I was . . . I stayed with her so there'd be somebody in the house. The idea of sitting there watching her get big was not exactly my idea of fun. And so I went . . . I applied for an intercampus transfer so that I could take courses at Berkeley for the summer. So I took two courses at Berkeley, which meant that at the end of '68 I had amassed enough credits for a master's, and I just went on and got it.



**CARUSO:** Okay. Yeah, I knew you had the master's in '68 and you usually associate that with the end of . . . okay.

**MALCOM:** Yes, right. And so I was still in the doctoral program at UCLA. I wasn't satisfied with my progress, but I thought that I would, kind of, catch up. But then the world went crazy. I mean, '68 was a tough year, people. The King assassination, the Kennedy—Bobby [Robert F.] Kennedy—assassination in Los Angeles. It's like finding your way through all of that was very difficult. What was I doing in graduate school when there were all these important things going on in the world?—Vietnam [War], the Women's Movement has just started to come <**T: 110 min**> online, etc., etc.

**CARUSO:** Right. Your audio has cut out, so I can't hear what you're saying; it doesn't look like you're muted. I just can't hear you. [brief period of time] I'm not hearing anything.

**MALCOM:** Can you hear me now?

**CARUSO:** Yes.

**MALCOM:** Okay. All right. Sorry about that.

**CARUSO:** You were saying that the Women's Movement . . . a lot of stuff going on.

**MALCOM:** And then on campus too. I mean, there was a murder on campus. A struggle between the Black Panthers and US. Yeah, there was a lot of stuff going on. And you can begin to say, "Wait a minute. Why am I doing this, people? Why am I in graduate school when the rest of the world is trying to figure out where the rest of the world is going to go?" So I think it was in '70 that I took a leave of absence. I spent two years teaching high school, one part-time, one full-time at Marymount High School, which was right across the street from UCLA. It was good to move from a focus on yourself to a focus on your students and be able to try to piece all of this back together.

**CARUSO:** You had experience as a teaching assistant and obviously your mother was a teacher. How was it, though, transitioning into being a teacher for high school students?

**MALCOM:** It was different largely because I had been teaching college students when I was a TA and since they were paying for their education, they were a lot more attentive. High

schoolers, it was like, “I dare you to teach me.” And my feeling was, “How could you not be excited by biology?” which is what I taught, because it’s about you. It’s about life. It’s about you as a person. So I made them a bet that before the end of the year that everyone would find something that they could love about the biology. And I kept to my bet because I listened to them as students, and I heard what they were interested in and you could always connect them into some part of the story of biology that they could really get excited about. So it was different, but it was also awakening in the sense of saying to me, “I don’t want to do this at this level for the rest of my life. I need to get back into graduate school.”

**CARUSO:** One follow-up question that I have is was the decision to go into teaching during this period of time . . . you said that you were recognizing, like, you know, “Do I want to be in academia, when all this other stuff was going on?” Was going into teaching in part a response to the things that were happening around you, or was it—

**MALCOM:** I think so.

**CARUSO:** Because I could also see it as being a safe place to go while you have . . . so that way you would have the time to think about what it is.

**MALCOM:** It was that, too. I mean, I could do both of those things; I could basically do something that was meaningful—okay?—at the same time that I was basically getting my own head together. All right. But something happened that essentially pulled me . . . something happened to me that was transformative.

**CARUSO:** Are you comfortable sharing that, or would you prefer just leaving it as that it was transformative?

**MALCOM:** Mike—I had a cousin who had moved to the area. <T: 115 min> And his wife and I became good friends. They had a two-year-old. Well, eighteen-month-old, I guess, at the time they moved, and I loved being with them and with the little girl. And then she became pregnant, and they were going to have another child. But in the midst of all of this, I became aware that she was having marital difficulties. My cousin was unfaithful. I mean, it’s a lot of people who are unfaithful, but she—Ruby—was murdered by the other woman. I saw your [eye]brows go up. Have you ever been in the middle of a murder investigation?

**CARUSO:** No.

**MALCOM:** Well, can you imagine being dropped into the middle of a murder investigation?

**CARUSO:** No. And she was still pregnant at the time of the murder?

**MALCOM:** No, she had had her baby; the baby was three months old. But she was killed by the other woman. I basically had to dive into that family to try to help stabilize the situation with regard to the two-and-a-half-year-old and the three-month-old baby. Those were the days when you had to make up formula. My . . . her aunt was living with them to help with all of this because [Ruby] was getting ready to go back to school, graduate school. But I would go over at night and make formula. I was . . . there were all kinds of questions that were floating around; the police were in and out—I mean, the sheriff’s office, excuse me—was in and out . . . calls were coming from Birmingham from my cousin [Robert’s father]. Did I think that he had done it, because at first no one knew what had happened? I know this is sounding like a soap opera, isn’t it?

**CARUSO:** Unfortunately, no. I mean, it’s a trauma that I think a fair number of individuals experience, and I can’t imagine going through that.

**MALCOM:** And . . . but it was like . . . we were. It was just after the big earthquake that had leveled the wing of the Veterans hospital and all of the aftershocks that came after it. So we were dealing with the earthquake and we were dealing with a murder. You know, it was like, okay, I’ve got to help this family get to some place . . . I had to get Ruby buried, had to get the kids settled. It was decided they would go back to Birmingham and live with my cousin’s father and mother who lived three blocks away from me when I was in Birmingham and then help him try to get his life back on track. And that was very difficult. I think I was twenty-six at the time, twenty-five, and that’s a lot to carry around when you’re twenty-five or twenty-six. The . . . he refused to accept that the other woman had done it. When he . . . when there was no other conclusion that could be drawn, he went into a period of depression. I got a call from Ruby’s aunt who had been staying with him, and one night it was like two in the morning she hadn’t heard from him, she didn’t know where he was. So I got up out of bed and drove over to be with her to try to figure out what was going on. Maybe half an hour later he came in—I think he had a bandage on his head—he’d been in an accident. But he told me, he finally confessed to me that it wasn’t an accident, that he had tried to kill himself. <T: 120 min> I raged. I just lost it. And essentially said to him, “You have two children to raise. What got all of us into this situation in the first place was your selfishness and everything was about you. If you have guilt, you deal with it, but do not basically subject to your children to not . . . to losing both of their parents.” So it’s a long story. It’s a long story, and it does not end there because quite frankly it was thirteen years before the woman who did it was captured.

**CARUSO:** So, she fled?

**MALCOM:** She fled the country. She went to Puerto Rico. She fled the mainland, she went to Puerto Rico, became a travel agent. She was in . . . she passed a bad check in Atlantic City, [New Jersey]. But before the wants and warrants had been completed, they let her go and then they found an outstanding murder warrant. So it was like a comedy of errors like on every single space that you had gone through. It's a very famous case actually in California because she had applied for a . . . for parole, I mean, when she was there, she was given, I think, a life sentence, but she had applied for parole. She was a model prisoner, etc., etc. Three governors basically turned down the parole—[Arnold] Schwarzenegger, [Gray] Davis, and—let's see who was the third one?—[Pete] Wilson. All right. And they went into court. One of the projects that was at USC [University of Southern California] went into court, and to the Supreme Court of the State of California was eventually able to get her out. And one of the things that was really . . . really bothered me about the whole thing was this notion of none of the family members had come forward. Well, we didn't even know about it. We didn't know that that was any forward to come. Oh, the killing had been senseless, and it was brutal—she shot her in the back and then turned her over and just stabbed her, so it was a clear, you know, this was whatever . . . but there it was. Now, you are wondering what kind of impact that has on somebody at that point in their life, right? To me, it said nothing is guaranteed, and if there is any kind of thing that I want to do with my life, I better get on with it and that's why, even after I had been out of—I returned to Birmingham for a while to try to heal because that one just was terrible—and eventually I went, I got a job as a fill-in residence hall advisor at . . . back at the University of Washington that, yes, that was safe space. But I knew that I that I couldn't just stay there, so I applied to go back to graduate school. And that's when I was able to get into Penn State [Pennsylvania State University].

**CARUSO:** Did you apply to more than just one university this time?

**MALCOM:** No, remember now I had a reputation to keep up.

**CARUSO:** What was it about the Penn State that attracted you?

**MALCOM:** It was on the East Coast; it was closer to home. Just like before, you know, the West Coast was further away from Birmingham; in this particular case, I knew that I needed the grounding. That's a lot to deal with when you're alone as a young woman, and so I went to Penn State. But I went in . . . went to Penn State in a DAT program—Doctor of Arts in Teaching—I had decided that I liked teaching <T: 125 min> and so I went there on a DAT. There was one course that I wanted to take, but I needed the professor's permission to take it. It was a seminar in animal behavior, which is what I had been working on at UCLA. So I just walked into his lab and asked for permission, asked him to sign this permission, so that I could take this course. And he wasn't going to sign it until I sat down and talked with him. And so he wanted to know

a little bit about my background. And I told him who I had been working with at UCLA. He saw my transcripts in terms of the courses that I'd had. And he says, "You don't want a DAT." He says, "You want a PhD." He says, "You can finish much more quickly with a PhD; you have no . . . you need almost no courses in order to do this. You need just a handful. You've already passed your language exam. You know, all you have to do is do your research. All you'd have to do is do your research and get out of here." Okay, it sounded good to me, so I switched at that day from a DAT to a PhD program in ecology.

**CARUSO:** What year is this? Sorry. What was the year?

**MALCOM:** This was 1972. I switched to a PhD program in ecology. I loved the seminar. It was like exactly what I needed at that time; it was a small group that we were . . . it was intellectually stimulating. We could try out ideas. I liked my ecology courses that I had to take. I was able to find community in a group of Black students who all lived in the graduate dorm. I even met my husband in registration line; we had different fields, but you had to register by alphabet. And my married name is Malcom, and my maiden name is Mahaley, and the MAs registered at 2:30. So, you know, I didn't pay attention. I asked my husband who was the only Black person in line if I was in the right line. I could not have anticipated we would end up in the same dorm and I had for sure . . . I thought he was younger than he was, but he had been in the Army and so he was . . . we were the same age, and I was able to find a community of people who were all in graduate school. And then I had another community of people who were all engaged in this interesting research and what have you. And so that means that I found a research project that interested me. I had . . . I started trying to query the question. I made one run, I knew it wasn't going to work, I stopped, I restarted, and it worked. So from the time that I graduated—from the time I entered graduate school at Penn State to the time I defended my dissertation was two years. So I ended up being the first PhD from the ecology program at Penn State, not the first Black, not the first woman, the first.

**CARUSO:** PhD?

**MALCOM:** Yeah. I had come from . . . you know, I'm not really surprised that I ended up in ecology. I had come from a strong program in ecology at the University of Washington, and I was drawn to the ecology aspects of the program at UCLA. So the fact that I would end up in that space doesn't . . . is not really surprising, but it was it was a fortunate set of circumstances. But I do want to say this because it bears on everything I have done since, and that is that I have . . . my whole intellectual background . . . is situated in looking at the way that systems behave. <T: 130 min> Ecosystems of whatever—education, science, etc. And that has basically informed the rest of my life.

**CARUSO:** Just one quick question about the man who became your husband. You mentioned he was in the army. Did he serve in Vietnam?

**MALCOM:** He served . . . he's Vietnam-era, but he did not serve in Vietnam. My husband had finished . . . in 1968 he'd finished in physics from Emory [University]. He was in the first group of Black students that they supported at Emory—remember now, this is the sixties. And so he had wanted to go to Georgia Tech [Georgia Institute of Technology]. He couldn't afford it. He thought he wanted to be an engineer. He instead . . . they were willing to give him a scholarship to Emory, and so he, kind of, went as close as he could get, which was physics. He served . . . He graduated in '68; he worked the summer in some branch . . . some research for one of the . . . [an] internship or summer program for research related to the Navy, okay? But he was drafted in that summer, even though he was scheduled to go to graduate school in September to get his doctorate in physics, and this is another one of those things where race plays a major component. You're working for the Navy, and yet they draft you, okay? What a lot of these draft boards actually did was that they would draft Blacks preferentially—he's in Atlanta—and essentially leave whites outside of the draft. If they were in school, they could get a deferment, find somebody to give them bone spurs, they could get a deferment. But this system did not work for Blacks. And so in order to fill their quotas, they basically pulled them from wherever. So he . . . they give you a test when you get in; he tested very well so that means that he had a greater selection of the course of the . . . what he could do. He became an X-ray technician and they let you choose where you work, too. And he initially was here in Atlanta at home at Fort McPherson and then went to Fort [Myer in Virginia] and then went to Germany, so he avoided the Vietnam as Vietnam. He was given an opportunity to . . . actually they gave him the opportunity to actually stay in San Antonio, [Texas], where the X-ray school was, and teach because he . . . you know, you're sitting here with a student who actually has a degree in physics—and there's the opportunity—but he said no. And so he went there. When he came out of the Army, the fellowship that he had had was gone. So he had to, kind of, reorient; he went to visit at Emory some of his old professors, and they said, "Well, why not come here? We can offer you a teaching assistantship." So he got a master's in physics from Emory and then switched fields into computer science, and we met at Penn State when he was getting another degree in computer science.

**CARUSO:** So you finished your degree in two years from Penn State. Did you have a vision for what it is that you wanted to do next?

**MALCOM:** Well, I . . . yes, I had a sense that I wanted to find a faculty position, and I had found a position at the University North Carolina <T: 135 min> Wilmington. And so I became an assistant professor of biology at UNCW. The interesting thing is that there are very few Black faculty—tenure-track Black faculty—on any of these predominantly white campuses and I actually had students who would come and visit just to look at me. I know that sounds strange but . . .

**CARUSO:** No, no. I mean, when you think about your experiences and the fact that there weren't Black faculty, when there is someone that students can relate to or connect with at that level, it's not surprising that even if the students aren't in your department . . .

**MALCOM:** Yes, that's it exactly; they were not in my department. So, but in any case, soon after that, we decided to marry, and I had to move. We had a conversation about who would move; it made more sense for me to move. He had the job that was absolutely perfect for his background at Johns Hopkins Applied Physics Lab. And eventually what he did was he designed software systems to manage satellites that would collect physics data. Hey, I mean, it was . . . it fit, absolutely fit. It was a perfect fit. And that's where he spent his entire career. So, when I moved to Washington, I couldn't take my tenure-track faculty position with me, so I had to do something else. And I found the job that I eventually landed in in the want ads of the paper, and it was to . . . a research assistant at the AAAS [American Association for the Advancement of Science] on a project to identify programs in science that had been undertaken to increase the participation of minorities within the sciences, engineering, and medicine. It was karma because I told somebody, I said, I would have taken that job for nothing if I'd been able to because I always wondered, "Where was everybody?" You know, whenever I went to school, I wasn't finding people in the sciences and in my program. And so I felt like, well, maybe they were someplace else. But then I started looking at the data and I found that no, they weren't. They just weren't. The numbers were small, the numbers were miniscule in some fields, nonexistent in others. And trying to understand why there were so few people and what it . . . what was going on. I've spent the rest of my career trying to figure that out.

**CARUSO:** So I want to hear more about moving into this . . . the Office of Opportunities and Science. Before doing so, we've been going for about two-and-a-half hours now. I don't know if you would like to take a break, or if, you know, two-and-a-half hours is enough for the day, you want to pick up on another day. I just want to spend a moment checking in.

**MALCOM:** Let's press on for a little bit, okay? I went to the Office of Opportunities in Science, and I met Janet Brown, who's absolutely an incredible mentor. She was great. She wasn't sure she wanted to hire me because she said I was overqualified. And I said, "Well, isn't that a good deal for you?"

**CARUSO:** How big was the office at the time? How many people?

**MALCOM:** It was like three people. I mean, it was a small unit, and I would basically be coming in and taking this on, but it was quite clear that she then saw that there was an opportunity to give me other things that I could take on. I worked, for example, and early on gave testimony <T: 140 min> that . . . on ethics and the whole question about the program on

ethics and values in science—gave testimony about how this actually related to minority communities because people weren't talking about this, and yet we had seen like those of us who lived in those communities, we experienced these through totally different kinds of lenses and we saw that there were, like, ethical lapses when dealing with a lot of these communities. And then I had the opportunity to work to develop a conference and then a report on minority women in science. This was the first time that anybody had actually ever raised this as an issue, and it came about in a very interesting way. Janet had received this grant that I was working on on minorities, looking at programs for minorities in the sciences, so she went to the PI meeting. And what she saw at the PI meeting is that all of the PIs on that grant were male. They were minority men. So then she went to the . . . she was asked to speak at this grant program for the NSF [National Science Foundation] PIs, but the women's program. And she went to that program to speak, and she noted that all of the PIs were white. And it was like, "Okay, I don't see anybody who looks like you at either one of these places. How strange is that?" I said, "It's not strange at all." She said, "Are there particular issues that you have faced?" I said, "Yeah." So she went and got support to do a conference looking at minority women in the sciences. And that was really the first time anybody had ever explored this issue of the intersection of race and sex within the sciences and the kind of experiences that—and barriers—that that gave since that time. And I think you will probably find that . . . "The Double Bind: The Price of Being a Minority Woman in Science," from 1976, and Paula was like the lead person summarizing the work and what have you, but Paula Hall . . . but then I was more, kind of, on the fringes of the of the work.<sup>3</sup> I was . . . I'd helped to put it all together and everything, but Paula was the lead.

But then the . . . it was being read and reviewed internally to AAAS, and I can't remember if it was Phil Ableson or Bill Carey, who said, "You really haven't said to me why . . . what is it about being minority and female that presents a difficulty? Everybody has problems in science." So I took the document at that point and tried to help paint a picture of what it was like at different points in the life . . . in the arc of a career—at different points how you were basically having to deal with race and gender and how you never really were able to like satisfy anybody else's concerns at the time. And if you want to, kind of, ever read that, you read page two and it is a statement of, "Yeah, it's hard for everybody, but I'm doing everything you're doing while hauling around all these other expectations of all these other groups and trying to meet the needs of all these other groups and trying to stay within my own community and not lose myself and my identity within all these other groups. And whenever I am . . . I encounter people <T: 145 min> that they see me as the other. They see my difference first, and many ascribe my difference as a deficit because that's the way that they have been trained to think about women or trained to think about Blacks and for God's sake, for sure about Black women." And that this is a burden that we women of color experience when we're trying to go into these situations and be professionals and feel and that's not what people are seeing. I mean, when we were at the conference, the stories that came out, I mean, would . . . they were just everybody. . . Yes, it was everybody's story, okay? And you may say that they're stories, but the data tell us, for example, in the sexual harassment report that was issued from the Academy a couple years

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<sup>3</sup> Shirley Mahaley Malcom, Paula Quick Hall, and Janet Welsh Brown, "The Double Bind: The Price of Being a Minority Woman in Science," AAAS Report no. 76-R-3 (April 1976).



back.<sup>4</sup> The group most likely to encounter the problems are women of color. If you look at the salary data, those who have the biggest salary inequities are women of color. If you look at the hiring data, those who are least likely to be hired are women of color. If you look at the promotion data, those who spend a longer time in rank are women of color. So does it make a difference? Yes, it does. But this had been the first time in trying to really look at a lot of these issues. [Thirty-five] years later, my daughter [Lindsey Malcom-Piqueux] and I returned to this issue. And if you want to look at that, it's at *Harvard Educational Review*: "The Double Bind: The Next Generation."<sup>5</sup> And talking about the extent to which a lot of the things that I encountered and dealt with that they were visited on the next generation as well. We had not solved these challenges.

**CARUSO:** Just keeping in mind that "The Double Bind" came out, co-published in '76, correct?

**MALCOM:** Yes.

**CARUSO:** This is also . . . and not to return to issues focused more on Black men as research subjects, but this is four years after the end of . . . the official end of the Tuskegee syphilis. And so I'm wondering if there was any—you mentioned having this one colleague saying earlier, like, "Well, it's tough for everyone. Why is it especially tough for you?" Was there just not even a recognition about the ways in which Blacks had been treated differently in the US, especially with, you know, just four years early the revelation of the Tuskegee Institute?

**MALCOM:** No, I mean the thing that you have to realize is that every time you have one of these discussions, the encounter was considered to be a one-off, okay? The idea of something being systemic. That's why when I said to you it is important that you understand that my entire kind of intellectual background prepared me to think systematically—they were not one-offs; the system was behaving exactly the way that it was designed to behave. And that in fact, because nobody who looked like me was ever conceived as being a part of that system, then there was no way that the system was going to serve me well, right? So if you think about like the kind of post Tuskegee response—the policy response to post-Tuskegee—was that litany that you read to me at the beginning of our conversation. That was the laws that related to the protection of human subjects. But prior to that time, there was no protection. The system basically worked the way <T: 150 min> it was designed to work. If you're not people, there it is.

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<sup>4</sup> Paula A. Johnson, Sheila E. Widnall, and Frazier F. Benya, *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. Washington, DC: The National Academies Press, 2018.

<sup>5</sup> Lindsey Malcom and Shirley Malcom, "The Double Bind: The Next Generation," *Harvard Educational Review* 81, no. 2 (June 2011): 162-172. Accessed at <https://doi.org/10.17763/haer.81.2.a84201x508406327> on 22 March 2022.

**CARUSO:** I mean, I guess the only rudimentary thing was the Nuremberg Code, but it was clear that most medical researchers in the United States didn't think the code applied to them because they weren't Nazis, right? And it was I think Henry [K.] Beecher's work in 1966 that also revealed a lot of the unethical medical research practices happening more broadly in the country.

**MALCOM:** I mean, it goes back, back, back, back, and back, right? I know that you're familiar with the J. Marion Sims's studies where it was perfectly fine, you know, to work on these enslaved women. You know, he could argue that he's doing them a favor, and without anesthesia, because the narrative of the day was that Blacks didn't feel pain, okay? So it's a system, and unless you basically look at the system, then you cannot—and consider it a system—you cannot overcome it. Every incident is taken as singular, not as part of a larger interconnected, entangled set of structures that essentially situate you in a particular place.

**CARUSO:** So what response did you get to your . . . to the published article? Did people reach out to you? Did government come along and say we need to fund more studies, or was it just something that you put out there and people . . .

**MALCOM:** You put it out there and, actually, people were surprised when they found it and the people who were largely looking for it were women of color because they knew that something was different. They knew that this was not everybody's experience, and they just did not have anything to call it. It was really only in the eighties when Kimberlé Crenshaw started talking about this from a legal perspective of the intersectionality did we even have a name, something to name it and be able to call it something and help people understand how it impacted folks? So . . .

**CARUSO:** So overall what was your feeling about remaining in the Office of Opportunities in Science? Did you see that as where you wanted your new career trajectory to go?

**MALCOM:** I didn't really think about it. It gave me a lot of opportunities to look at things that really impacted a lot of people, myself included. But it wasn't really clear what I needed to do. And so I . . . when I had an opportunity to move into a federal agency—especially into the National Science Foundation—I took that opportunity and spent two-and-a-half years within the NSF science education directorate. I learned a lot at that point. I learned how to write grants, I learned how to review them, I learned a lot about institutions because even though I had been in higher education institutions, I had been in a department. It's one thing to be in a department; it's another thing to understand the institutions. So I got to the place where I could begin to understand how the pieces, how the systems actually worked when they came together and then

being able to go back and head the office where I had worked was a singular opportunity and an honor. And it was at that point that I realized that we were the ones with our committees that were, kind of, shaping the questions that we were looking at—the agendas—and that we could begin to follow that to try to peel back the layers of the onion, as it were, to try to understand the system that was not working for us.

**CARUSO:** I'm curious to know if <T: 155 min> you saw the political climate at the time, right? This is the Carter presidency?

**MALCOM:** Yes, this was the end of the Carter presidency.

**CARUSO:** Right. So was there something structurally about that presidency that was having an influence on this general movement?

**MALCOM:** Let me just say that when I came to that point in time, there was a piece of legislation that was winding its way through the Congress: The Equal Opportunities in Science and Engineering Act of 1980. And I . . . it started off as the women in science . . . as a piece of legislation looking at women in science that built a lot of the requirements from a conference that my old office had held. I wasn't in the office at the time, but they had held the office, they had done studies, they had done research, etc. A lot of the things that needed to be addressed were uncovered in that conference. And so the shape of that legislation was very much focused on women in science, and it was very much driven by that. When I went to the Office of Opportunities in Science, I was drawn into that discussion about that legislation and where it was and what it was trying to accomplish. And I was also drawn into it even more when it was quite clear that people didn't want to pass a piece of legislation that only focused on women, but they wanted it to include minorities. Not only was I talking to staff of Senator [Edward M.] Kennedy's committee and testifying on that side—on the Senate side—but also to the House side and having discussions with George Brown and his committee. What I was trying to do was to keep them from saying “and minorities” everywhere it said “women” because the legislation had been tailored to address the issues that we knew that women faced. It wasn't really clear what the issues were that minorities faced, and there needed to be an opportunity to really do the research, and they began to really respond to what the issues were—not to what they were assumed to be. And so I helped negotiate a space that you could deal with both of the groups, that we could add issues that might relate to disability but to be able to do it in a way that was not presumptuous of what we were going to find when we looked at the condition of people of color. So this was the Equal Opportunities in Science and Engineering Act of 1980. President [Jimmy] Carter—the Congress passed it—President Carter was not crazy about signing it because it seemed to be to him at that time to be too prescriptive with regard to what it directed NSF to do. I think that Frank Press was his science advisor, but he did sign it at the eleventh hour at the end of 1980 before he left office.

When the legislation basically came into play, [Ronald] Reagan was in office. And there was a totally different kinds of attitude <T: 160 min> about the role of education at the National Science Foundation. They did away with education at the National Science Foundation, except for an office, and that was largely focused on the Graduate Fellowship Program. So, this, you know, like how are you going to figure out your way through this? One aspect of the Equal Opportunities in Science and Engineering Act that was put in place at the time was the formation of CEOST, the Committee of Equal Opportunities in Science—at that point—in Science and Technology—became in Science and Engineering (CEOSE). And this was this notion of let's at least figure out what the system is and how the . . . what the Foundation is doing, what kind of impact that those things that . . . what the thing . . . what the Foundation is doing actually has on these different populations. So that was, kind of, like the extent of what was going on. However, another major aspect that was critical within that legislation was the requirement to collect and report sex and race disaggregated data. You cannot fix what you do not understand, and without those data, you could not know where even to look, but that reporting requirement was still in place. And so the data collection, the analysis, etc., goes on to this day. Prior to that time, it had been very difficult to find disaggregated data. When we had the Double Bind conference, for example, Betty [M.] Vetter, who headed the Scientific Manpower Commission at that point, had to get special runs in order to disaggregate the data and try to figure out the female component of the minority numbers. So there were aspects of . . . there were aspects that were left in place even though a lot of the things that had been asked for in the way of programs, they just weren't there because the science education [director] just went bye-bye. So does that make sense?

**CARUSO:** Yes, yes. One quick question I meant to ask earlier. So I know that you became the head of the AAAS Office of Opportunities in Science in '79. Where . . . what . . . where did Janet—you said, Janet Brown—

**MALCOM:** Janet left, and I filled Janet's position.

**CARUSO:** Where did she go?

**MALCOM:** This is the interesting part. Environmental Defense Fund. I told Janet that we just traded places, okay? I, as an ecologist, went to her old office, and she, as a political science person, went to my field—environmental defense.

**CARUSO:** When you became the head of the AAAS Office of Opportunities in Science, what did you want the office to accomplish under your direction?

**MALCOM:** I wanted the office to demonstrate what was possible programmatically and try to transfer the “what is possible” into policy. All right, I will explain to you. We did a study back in the late eighties, when it was still the Office of Opportunities, of what colleges and universities were doing to support women and minorities within the sciences. The results of that study are in a volume entitled, “Investing in Human Potential: Science and Engineering at the Crossroads.”<sup>6</sup> But the institutions that we looked at were the ones who got a lot of money <**T: 165 min**> for research from the federal government. You would expect—wouldn’t you?—that they would be the places that would be most situated in terms of . . . best situated, I guess you would say—to undertake these diversity initiatives.

**CARUSO:** I mean if you have the funds to do so, then . . .

**MALCOM:** You would think that, right, but then when you started going into those institutions, what you found was that that wasn’t what was going on. They would have a little program over here, a little program over there, a little program over there. In some cases, we actually came into the space and told people about other programs that they had in their same institution. There was little coordination; it was just like hit and miss. You want to be able to try to see what is it that could have been said to those institutions to incentivize them to be a lot more intentional around diversity concerns. Think about that. What is it that the funders could have said? What is it that their accreditors could have said? What is that anybody could have said to promote more intentionality around diversity concerns? So that was, you know, you did . . . we did a lot of studies; we were trying to figure out what the lay of the land was, where the opportunities were. We’re trying to promote looking at the problems in a different way and trying to also, at the same time, support the changes within our own organization that would allow us to dig a little deeper. And we became much more diverse as an organization in terms of the board, in terms of the things that the organization was concerned about. We did studies, as I said, to try to make sense . . . because the problem is that the pieces of this are scattered all over the landscape. And you don’t know . . . you seek effect, but you don’t know where cause lies. You don’t know what contributed to the outcomes that were there. And so that was a large part of what we were trying to understand—trying to understand, you know, if there’s gold there, where do I dig? And I think that there was a large part of that when we . . . when the unit reorganized and became the directorate, not only did we have the that particular part—the diversity and inclusion part—but also we had the STEM education part, and then we had the public understanding part, and then you could begin to look at this much more holistically in terms of the barriers that might be there that would keep you from doing what you know you needed to do.

I mean, we were not going to fix K-12 by . . . because the schools were what they were. They were not ours to fix, but one of the things that we did is we spent a lot of time looking at out-of-school because people had not really grabbed onto the notion that you could do things in

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<sup>6</sup> Marsha Lakes Matyas and Shirley M. Malcom, eds., “Investing in Human Potential: Science and Engineering at the Crossroads” (Washington, DC: American Association for the Advancement of Science, 1991).

the out-of-school space that you couldn't do in the school space. There were too many regulations and rules and too much pressure on the school space and hardly any on the out-of-school space. So we were trying to figure out what was happening in the out-of-school space that . . . and what were people learning from the out-of-school space that could inform the school space and could inform the policy space, etc. We, for example, the National Science Board Commission on Precollege Education in Mathematics, Science, and Technology—we did a study for them that resulted in a document called “Equity and Excellence: Compatible Goals,” going back to the work that we had done previously looking at all those new programs that had been undertaken to bring minorities in. <T: 170 min> Subsequently they looked at programs that had been undertaken to bring women in. But then going back and trying to understand what was going on in those programs that weren't going on in regular school and how they were successful when school wasn't, trying to pass this information along the line to inform the way that funding was done, the way that programs were situated, the way that expectations were articulated.

**CARUSO:** So you just mentioned this report directly written for the NSB. I'm curious to know with a lot of the work that you're doing at AAAS, were you—I don't want to use the word publicizing—but how were you getting the results to the people you thought should be reading those results? I mean, you can always put the report out there, but you never know if someone's going to read it.

**MALCOM:** Right. Well, we were trying to disseminate it. We were trying to disseminate it. We were trying . . . we were working with internal powers to try to push it out there. We were working with other organizations to try to push it out there. We worked a lot with, for example, other minority science organizations or women science groups or what have you. We worked with science museums. We worked with groups that . . . where we had some connection, some affinity. We did not—as I told you—we did not work with school systems that much; there's too many of them. Too . . . not just too many but hard to know how to . . . where the leverage points were. You got to pick your places.

**CARUSO:** Okay. So during this time, were there specific reports that you feel like . . . specific studies that you had done, reports that you generated that you feel really demonstrate what your office was trying to accomplish? Are there some that you think are more representative or that you're prouder of than some of the others that you wound up generating?

**MALCOM:** Well, I mean, obviously, “The Double Bind” was the first one to really raise these issues. “Equity and Excellence: Compatible Goals” was really important; it was . . . it became a focus of the . . . of what the [. . .] National Science Board Commission put out there.<sup>7</sup> The

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<sup>7</sup> Shirley M. Malcom et. al., “Equity and Excellence: Compatible Goals: An Assessment of Programs That Facilitate Increased Access and Achievement of Females and Minorities in K-12 Mathematics and Science Education,” AAAS Publication 84-14 (December 1984).

“Investing in Human Potential” because it began to, kind of, make sense about what was and was not happening within colleges and universities. I mean, as I think about it, it’s like, “Okay, what has led me to today when I’ve tried to move whole systems again?” And it is like, “What did . . . what is the accumulated knowledge that was needed in order to be able to come to today, to arrive at today with a very different perspective on what needs to happen?” I do think that there have been some more recent ones . . . because what I haven’t said is that not only do you get decisions by administrations that they’re not going to do something in a space that you feel like needs to be done but you’re getting court decisions, too, that are narrowing the set of things that you can do in the name of supporting diversity within the sciences.

You know, we’ve been living with the Bakke decision [Regents of the University of California v. Bakke] for a long time, but then you get the Gratz-Grutter decisions [Gratz v. Bollinger; Grutter v. Bollinger] and then you get Fisher [Fisher v. University of Texas at Austin] and then and then and then. I mean Hopwood [Hopwood v. Texas] came along for a while. We were trying to understand, I mean, during the period of time after the Adarand decision [Adarand Constructors v. Peña] when the Clinton administration looked at a lot of their programs and reviewed them and said, “This . . . we can’t keep doing this particular program because it doesn’t work with . . . in light of the Adarand decision.” So you’re constantly reshaping <T: 175 min> the direction that you’re going because the ground underneath you is shifting the whole time. Not only because of what the administrations are doing but what the states are doing and what the judicial . . . what the courts are doing. Because if you were to lay all this on a timeline, you would begin to understand what it was that we were having to react to. You could be proactive, but you also had to react to things that were happening that were beyond your control. And the institutions that were reacting to it, sometimes their reaction was, “Well, since I’m not sure what I can do, I won’t do anything.” And that was, I think, a large part of what we were battling when we did some of the work to try to figure out how to help institutions, figure out what you could do, and still be effective, but also that it was legally sustainable. So I have operated in this very strange space as a person who was trained in the sciences, but who had to become deeply engaged around policy concerns, law, and all this other stuff that I didn’t sign up for. And yet I didn’t . . . in order to kind of stay with the work, I had to keep shifting.

**CARUSO:** So do you think it was a benefit of being in an organization like the AAAS instead of being in a governmental body itself? Like, you reference sometimes in the NSF, but you were . . . I mean, AAAS, it’s a non-governmental organization. Was it beneficial being in that non-governmental organization or more difficult?

**MALCOM:** Yes, it was easier being at AAAS because yes, I had to answer to my CEO, and I had to answer to the board, but it was baked into a lot of the resolutions and the values of the organization that you deal with these issues, okay? And that was independent of who the president was—the council had said we deal with this; the council had said this is where we stand, these were the values that were articulated. And so we . . . it was our role as staff to interpret and work with the council and the staff to try to figure out how you make these things

real. I could not have done much of what I have done within government. Now the exception—let’s talk about the exception, okay? The National Science Board was an exception. PCAST [President’s Committee of Advisors on Science and Technology] was an exception. That is, that there was a lot more opportunity as an influencer to be able to make change inside of those entities. But the advantage of being an influencer outside of those was to change the narrative. Diversity in science was good. There is a national imperative. There are reasons why we need to use talent from many different groups. There is a reason that our innovation depends on this. There is a reason that relates to not only the quality of the product that you’re going to get but the demographics of the country that you have and shifting the narrative, changing the storyline so that people began to understand that there’s a different stake—a different set of things at stake—that’s more easily done outside in an editorial or in a <T: 180 min> paper or in a *Scientific American* piece or an op-ed or in a whatever it is or in a speech or in a work with other kinds of groups. But actually making the shifts as an influencer was easier done inside. I mean, to give you one example. I joined the National Science Board by myself. Usually you go in in classes, but I filled an unexpired vacancy that was sitting there. And so Neal [F. Lane] and I were the only Clinton appointees and the other twenty-four people—the other twenty-three people—were appointed by Reagan or [George H. W.] Bush, all right? So, I come into the Science Board, I volunteer for the Strategic Planning Committee. They said their work was done—almost. I read their work, and it essentially argues for a 1970s, eighties NSF, rather than a 2000s NSF.

**CARUSO:** So what does that mean?

**MALCOM:** That means that NSF is about funding basic science and that’s all good and that’s what it needs to be about. No connection to its role in education and workforce, no connection to its role in terms of addressing national needs, no connection to serving larger societal goals. That wasn’t gonna fly. It wasn’t gonna fly when it got to the White House. I knew that. And I tried to say that to my colleagues. And I said, “That’s okay. You know, I’ll write . . . I’m willing to write a minority report to whatever the Strategic . . .” No, they did not want that. And if you stop and think, you know why they don’t want that—that is, the one person who is named by the sitting president who has to put in a minority report to a strategic plan for an agency because her voice was not heard. You know that’s not going to work. So what they did was to at least get a reset—control, alt, delete reset—start down this road again. Let’s have a different discussion and get in some of these things that talk about the integration of research and education, that talks about the role of science in terms of a larger support for the innovation for the other kinds of things. Not just basic research for basic research’s sake. Even Vannevar Bush didn’t say that. And yet they were, kind of, going in a direction that just was not, did not make sense.

**CARUSO:** When you were so . . . I know that you joined the NSB in ’93—right?—and you’re on the PCAST starting in ’94, you said that, you know, the twenty-three other people were—I forget which number, twenty-two or twenty-three other people that were there—had



come on during Reagan and Bush. Had you interacted with these individuals in your position . . . ?

**MALCOM:** Some of them. I had interacted with some of them. I chaired CEOSE [Committee on Equal Opportunities in Science and Engineering] for a while, so I interacted with some of them and their predecessors. I'll give you an example. The Education and Human Resources Committee [a National Science Board committee]—the board—would meet and I wanted to be able, as chair of CEOSE, to at least be available. And they said, well, no, because they did not have any non-staff or non-board people meeting. And I petitioned that, and Si [Simon] Ramo didn't think that made sense. And so he was chairing it, and so Si said, "Yeah, she can come." All right? But some of the colleagues were a little crusty on that one. And when I got to the Science Board, I met some of the same people on the Board. And I had an uneasy relationship with some of them. Okay, I'm willing to say that. <T: 185 min> Some of them—one of them had a really interesting perspective on when women should and should not be heard. Another one tried to get me thrown off the board after I went into PCAST because he could not understand how he said I could basically be advisory to myself and went to legal counsel to get a ruling on whether or not I should be allowed to remain on the Science Board. Now if you want to know the name, you're going to have to turn off the recording. All right. But the major issue was that I was . . . yes, I was a troublemaker on the Board. And I will tell you why . . . I'll tell you how I made trouble.

**CARUSO:** Can I ask you one question first?

**MALCOM:** Yes.

**CARUSO:** So part of my line of questioning right now is you're in an interesting position where you . . . for . . . prior to joining, prior to becoming part of PCAST, you're working in a situation in which what you're recommending is for people similar to those who might be on PCAST itself. And so I'm wondering if you have any perspectives about PCAST, presidential science advisors prior to you becoming a PCAST member. What were your thoughts about what PCAST was doing in the eighties?

**MALCOM:** Okay, I can easily tell you that quickly.

**CARUSO:** I didn't want to interrupt your story.

**MALCOM:** I can tell you that. I can tell you that quickly. As far as I was concerned, it was a bunch of white guys—largely physics—who were looking out for themselves and their own

fields. That was my . . . that was what I saw, all right? I did not see any kind of larger set of visioning beyond, kind of, rounding up the usual suspects.

**CARUSO:** And a return to what had been, not a vision for what could be—right?—like you mentioned, getting the NSF to be what NSF was like in the seventies and the early eighties instead of trying to move it forward into something new.

**MALCOM:** That's it exactly. And that's the thing, you know, the thing is that it's all for me, looking backward is not a nice space. I want to look forward. And I had a lot . . . I had a sense that there was a lot of backwards looking stuff. I mean, if you look at previous PCASTs, it was dominated by people in the physical sciences, there were even very few life science people on some of these things, and so it was a heavy defense, security kind of an orientation and that's fine. But that's not the only thing going on in the world. And that's not the only thing that can tear your world up. And, if anybody doesn't believe that, look at where we are right now. And that's my point. And that is what I looked at that—I would never have imagined basically serving on a PCAST. Let me just tell you that you . . . that I was made to understand how strange it was for me to serve on the Science Board and PCAST at the same time. And it wasn't just that one of my colleagues wants to do this. I received a phone call when I was in Costa Rica asking me if I would be willing to come off of the Science Board and come on to PCAST. They were ready to name PCAST and there was a position that was . . . that they had not filled and I don't know who had . . . who was supposed to fill it. But I was convenient for the fact that I not only added demographic diversity, but I was clearable. I had already had a full-field FBI check, so in terms of Senate confirmation and going on to the Science Board. And I don't know what the problems were with regard to the last position, but they wanted to be able to name the PCAST, and so I was <T: 190 min> asked if I would be willing to make that switch. Did you know that?

**CARUSO:** No.

**MALCOM:** And I said, "I'm in the middle of something on the Science Board, so I'm really reluctant to leave. Can I do both of them at the same time?" And there was a lot of hemming and hawing. "I'll have to get back to you." Then I received another call when I was in Costa Rica from White House [Office of] Personnel and they wanted to talk to me for a while about this. And at some point, the issue came up, "Well, you understand that a President only has a few things that they can basically give out and appointments are one of them. So the idea of putting two of them in one person is really unusual." And so, but they continued to work around, and they said, "Okay. It'll go." And then I was a part of the class that was . . . whose names were released. So on the other side, I had people on the . . . with regard to the Science Board—who weren't really clear that that was good, that that was appropriate for me to be on both of them at the same time. It ended up, I think, in many ways the best thing in the world because I was able to take issues that needed to be dealt with at the level of White House from the NSF into the

White House immediately without having to go through all of the usual channels that . . . that had to be gone through. Such was the issue with regard to the South Pole Station. But that . . . but it was unusual because I was on there with people that I knew; I knew a lot of the people who were there. But I was clearly quote unquote not . . . . I did not have their *gravitas*. I mean, I was much younger, and unless you'd been engaged around diversity and inclusion issues you likely did not know who I was from a hole in the ground. But I had been around Washington for a very long time by then and had worked in policy . . . in the policy space. So I knew people on the Hill, I knew the staff. I knew a lot of the congresspeople and senators. And obviously I knew the people inside of the different associations—not just the science associations—but the higher ed associations, as well. So that's why I said I was an unusual appointment. Done in an unusual way and left in an unusual position. And I think that you need to understand that.

**CARUSO:** So when you came on to PCAST, you'd mentioned some difficulties with those who are already on PCAST, but I do want to hear what it was like.

**MALCOM:** Oh, I had no problems with the PCAST people. I had . . . my problems were with the . . . some of my Science Board colleagues.

**CARUSO:** Oh, sorry. I thought it was someone on PCAST that was . . . had raised the challenge of you having . . .

**MALCOM:** No, no.

**CARUSO:** Okay, my mistake.

**MALCOM:** No, it was a Science Board person, who by that point who wanted to get rid of me because they knew I was a problem, and it's okay. It's all good.

**CARUSO:** Okay. Though, you know, before interjecting with my question about what your perception of PCAST prior to you joining it I think you started to describe yourself . . .

**MALCOM:** And I told you.

**CARUSO:** As a troublemaker, right? I think that's the phrase that you used. Can you tell me a little bit more about what you mean by you were a troublemaker?

**MALCOM:** I was the only African American on PCAST.

**CARUSO:** How many women were on PCAST with you?

**MALCOM:** Who else was on?

**CARUSO:** Females, yes.

**MALCOM:** Let's see. Let me name all the women first, okay. <T: 195 min> Let me just say this, and that was . . . there were a lot more women than usual on PCAST. As I told you before, it was a whole bunch of dudes in physics, all right? So Ginny [Virginia] Weldon, Lilian Wu, Judy [Judith] Rodin, Diana MacArthur, Sally Ride. Okay, I think that's all the women. So among the men—Mario Molina, Francisco Ayala, Peter Raven—and I'd known Peter for a long time from AAAS stuff—John Young, of course, John Holdren, which I also knew from AAAS stuff. I can't remember who else.

**CARUSO:** I mean, we can always look up the records. I was just . . .

**MALCOM:** I mean, come on now. That was a long time ago. Give me credit.

**CARUSO:** Oh, tons of credit. I don't think I could name ten individuals right now. I just wasn't sure what the gender makeup . . . since you mentioned that you were the only African American, I wasn't sure what the gender . . .

**MALCOM:** Yes, but I wasn't the only woman, and I wasn't the only person of color. I had known Lilian and became close with Ginny and was thrilled to meet Sally—and Sally and I subsequently worked together on the Caltech board so these were . . . I knew Peter, and I knew the guys, Peter and John, and I knew Mario too—and Francisco. So it . . . and I did say Murray right? Murray Gell-Mann. I didn't know Murray, and that was one of the funniest things I've ever gone to in my life when I was sitting at a table in White House mess, and Murray says to me, "Who are you?" And I said, "And who are you?" Because Murray, you know, Murray figured that everybody should know him, and my feeling was okay, all right, so? By that point, I was unimpressed. I knew lots of Nobel Laureates; some of my best friends were Nobel Laureates. [laughter] No, I mean, it was an interesting time. He decided that I was an interesting person because he had never met any . . . a Black woman from Birmingham before. So, but it's all good. It's all good. Oh, I know someone who else: David [A.] Hamburg, who's a very close

friend of mine, David Shaw, as in D. E. Shaw. I just had to stop and think for a minute. I've just about gotten everybody, I think.

**CARUSO:** So tell me a little bit about first joining PCAST. What was going on for that council? What were some of the requests from the President? What was it like working with the presidential science advisor?

**MALCOM:** Well, I knew Jack [John H. Gibbons] too; that's the other thing that you need to understand. Jack . . . a lot of these people had gone—that's the other advantage of AAAS—a lot of these people had come through the board of AAAS. I mean, even in terms of the previous . . . because I knew the D. Allan Bromley and so I knew Jack, I had had a lot of traffic with Jack because I worked with people at OTA [Office of Technology Assessment]. So when you have people who know you who know first of all that you're not a flake and that in fact sometimes yes, you are going to raise issues that <T: 200 min> they may be uncomfortable with or perspectives that they don't have. It's like, get over it, okay? You either deal with it in this room or you put it out there and have to deal with it when somebody else says. Now you should know—I will tell you, and I'm going to have to leave in ten minutes to get ready for my Zoom call—you should know that there were rumors on the street that we were a strange PCAST in the following way. We were much more diverse than previous ones, and that was not just race, ethnic, and gender diversity, but also field diversity. A lot of . . . the rumor on the street said something like this: they will never come to consensus because they keep throwing in other issues. Now I could translate that to they will never submit to groupthink because there's enough diversity there to keep them from doing it. That's actually the way that it began to work. Yes, at the beginning, we had . . . we were all over the place. But as we came to know each other and to anticipate the perspectives that different people will bring, we were able to work much more quickly. And we had very little of the blowback that has characterized other groups in the sense of you put something out there and it's just meat to a pack of hungry dogs. Because we dealt with those issues. We talked about how these could be viewed through different lenses. We challenged each other.

And I think that a lot of people don't appreciate that it's better to have the people in the room at the time that you have these discussions than to have them outside basically complaining about the things that came out. But initially, we looked so different that the kind of usual suspects just thought, "Well, they're just placating the—these days we would call it the cancel culture—but they're just doing political correctness." But in this particular case, the importance of having multiple lenses that were looking at the issues saved us a lot of grief. I cannot even begin . . . I can give you concrete examples. I mean, some of them redactable because they involve people who said things that if they had said that outside of the room, there would be hell to pay. We have to make . . . help people understand how this looks from the vantage point of others. People talking about doing experiments within education, and I gently said, "You have to understand that Black people have been experimented on for decades. So when you come out with language like that, people are going to think you want to experiment with their children and even if it's not like health-related or something like that, the attitude will

be once again we are the target of experimentation.” You have to be very careful with your language. I don’t know if that would have happened under other kinds of circumstances unless you have that diversity built into the deliberation, you could end up having to fight battles that you just don’t want to fight because you’re not bringing those lenses into the conversation, okay? <T: 205 min>

**CARUSO:** So yeah, that’s probably a good point to end for today. You know, there are other questions that we’ll want to ask about your time on PCAST and the work that you produced while there, but you know we’ll work with you to schedule another day and time.

**MALCOM:** Yeah, we can find another time, and I . . . but I think the most important part since you wanted to take a life cycle view of this is you really needed to know where I was coming from and why I think the way that I do and why I’m going to fight for the underdog and why I care about this country basically putting forth its best self is represented by all of its people and all of its talent. I think you get it, okay? And I think that you understand that I am tired of having people say, “Why don’t these people go into science and engineering?” as though we need fixing as opposed to the systems that keep us out or that present barriers to our participation that need fixing. So that’s who I am.

**CARUSO:** And we are so appreciative of all the time that you gave to us today, and we are certainly looking forward to our next discussion.

**MALCOM:** Yeah. Well, we can go into the next phase of the discussion, and I probably should mention at some time at some point that I had prior working engagement with both of the Clintons before I came into all of this. I had worked with Hillary [Rodham Clinton] for years and years and through her met Bill [Clinton], so, kind of, they knew what was coming too.

**CARUSO:** Okay, so, yeah, I think that’d be great to hear more about maybe as a way to start the next interview session.

**MALCOM:** Okay. All right.

**CARUSO:** All right. Thank you so much. Have a good afternoon.

**MATTHEWS:** Thank you very much.

**MALCOM:** Bye, bye.

**EVANS:** Thank you so much.

[END OF AUDIO, FILE 1.1]

[END OF INTERVIEW]

**INTERVIEWEE:** Shirley Mahaley Malcom

**INTERVIEWERS:** Kenneth M. Evans  
Kirstin R. W. Matthews

**ALSO PRESENT:** Daniel Morali

**LOCATION:** via Zoom

**DATE:** 25 August 2020

**EVANS:** Okay, we'll start like we did last time with just basic time and location and the people that are with us today. So it's August 25, [2020]. This is the second part of our interview with Dr. Shirley Malcom, who we're interviewing as part of our PCAST project in collaboration with the Science History Institute. I'm Kenny Evans, and I'm here with Kirstin Matthews, and Daniel Morali also joining us on this interview. So, yeah, well, we can jump right into it. Last time we focused on your early life and career leading up to PCAST, and I think we came to a really good stopping point where you're just about to tell us all the trouble you were making in both these committees.

**MALCOM:** Oh yes. I mean, the thing is that it was an unusual situation to be on, to serve on both of those bodies at the same time [PCAST and NSB]. And I think that I mentioned to you that some of my colleagues were not especially happy. I think that they thought that I had more access than I actually did or would do more crosstalk than I actually would. Because I considered those to be really separate entities, and I tried not to confuse those roles, except when there was an issue that needed to move from one to the other. And one of those issues that actually came up was the fact that we needed to replace the South Pole Station. The [National Science] Foundation basically ran the polar programs—the Arctic program and the Antarctic. But they ran it on behalf of the United States government; it wasn't just an NSF thing. And so, when it came time that we really needed to replace the South Pole Station, that was a lot . . . going to be a lot of money, and that was a big ask. And I don't think that there was enough awareness yet within the White House of the vulnerability of that station—the conditions of the building. I tried to convey this message into PCAST so that it would go into the White House, so that the responsibility for trying to address that was actually . . . was seen as belonging to the federal government, not to the NSF and the concerns about the building and about the needs to really get real about the replacement, etc., was something that I was able to articulate. They needed to start a process, and they did. They basically had a team that would look and see and make recommendations because it was going to be a lot of money; the kinds of conditions that you're operating under require very different building conditions—I mean, real challenges. But I . . . people always want to bring up budget. But, on the one hand, it was a budget. On the other hand, it was what would happen if that building collapsed? So, trying to help people really understand the reality of the trade-offs that were there.



But otherwise, I tried to keep those worlds separate. But sometimes it was hard because I was on a committee that was looking at education, and I think I mentioned before that one of our colleagues who had come in wanted to look at this notion of what are the opportunities for technology to really improve education and when it . . . and because we were so undercapitalized with regard to putting technology in school and using it in ways that were educationally beneficial and could, kind of, ratchet up the ambitions that we had for schooling. That was the focus that they went in with, but it very quickly became that isn't necessarily the problem. The problem was that we had a very weak research base around education. Even if you wanted to put a whole bunch of technology in, you didn't even have a research base <T: 5 min> to even ask the questions about the impact of it or what kind of a difference it might make or whether the teachers had been trained in such a way that they could . . . and had had education in such a way—that they could usefully use the technology. And I think about that now. Think about that now, given our situation with COVID. But at the time we were asking these questions about the role of technology in education, and after it became quite clear that there was a larger need to build a research base up underneath any kinds of changes that you want it to make in education, then wanted one of . . . the chair of our committee committed personal resources to get research assistants to build an evidentiary base to say, “What is it that we know? What is it we understand? What does this look like?” You know, contrasting it with medicine where there was this huge research funding that was underneath the question of healthcare. But here we had this big enterprise called education, but there was not the same kind of investment and the research to really understand it. And so this was . . . this led to the development of a research . . . a recommendation from us that, in fact, a research program be established and that it be established across different agencies that had responsibility looking at STEM research and looking at technology and education.

At the time, there was a real strong feeling that when you dealt with K-12 that maybe that you needed—if you were talking about a teeter totter—that you ought to basically lean toward the Department of Education. But those of us who came from the content side and we were educators, we were saying, “Well, you can't just do that. You can't just do that. You need to be able to bring the content people and the educators together to really think about it and talk about it and figure out the role that research . . . and, you know, how research could inform education. There is actually a report somewhere around that David [E. Shaw] also had printed after we agreed on our report, and there was also a picture that is around of his handing the report off to President Clinton and Vice President [Al] Gore, and I'm actually I'm sitting next to the President I think at that time. And so the point was we were trying to make it clear that research was an important aspect of understanding what we . . . how we needed to proceed in terms of educating better.

To try to pull off, pull this notion of either Department of Education [ED] or NSF in terms of where the investment should go, where there's any infusion of funding should go, and to try to remove the possibility of the kind of tension that existed about either put it in ED or put it in NSF, we acknowledged that in fact there was another player. That was another research entity that looked at learning. And that was the National Institutes of Health [NIH] within the National Institute of Child Health and Human Development. They looked at things like reading,

and what did we understand about reading, what we did understand about dyslexia, dyscalculia, all the other kinds of things. And so there was another's arm, as it were, a leg, I guess it is to this stool. I think that in the discussion one of the issues that emerged was that NIH did research very differently from the way that NSF did or the way that ED did and that in fact, that the different ways of doing research were differently appropriate depending on what the questions were we dealing with. So that was a major . . . I think that was a major breakthrough, but it also had an <T: 10 min> unintended consequence, and that is that I am afraid that IES [Institute of Education Sciences] became over enamored of the way that NIH did research with the, kind of, blinding and they started to refer to that as "the gold standard," and they started asking for more research that incorporated those issues of double-blind kinds of stuff. That's appropriate if you're looking at drug trials. It's not appropriate if you . . . if the work is more like epidemiology and less like drug trials. And so this notion of where do you put the resources and how do you invest them around the different places where you could become a real central issue. And we knew those of us who work on that that you couldn't put that kind of . . . those kinds of resources or the amount that had been discussed inside of the NSF because the agency was sufficiently small that if you did that, it would unbalance the different directorates and the way that this had to work. But I think that making that investment and recommending that investment and then making that investment did move us ahead—not as far ahead as we need to have moved—but further ahead than we were. That was at least a recognition that there needed to be an investment in education research.

**EVANS:** So with that story and the Shaw report, did the report itself then make recommendations for funding levels for both NSF, ED, and also NIH or was it strictly focused on . . . ?<sup>8</sup>

**MALCOM:** I think that it was . . . that it made overall funding levels. I'm not sure that it actually said you ought to put this much here and this much there. That felt . . . that would probably—I can't remember, but I remember thinking that we need it not to be prescriptive because it needed to shake out in a way that was going to not leave the . . . it was not going to make those entities into something that they were not.

**EVANS:** Yeah, that makes sense. I had a quick follow up on your story about the South Pole station. At one point, what was the kind of chain of command there for raising this issue? Was it something you raised in a PCAST meeting that then you try to get on the President's . . .

**MALCOM:** Actually, I did not raise it in a PCAST meeting; I raised it privately with the person who had responsibility for the international side and let her take it up through the chain. My feeling was that it needed to . . . they needed discussion. If I were to bring it out and put it

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<sup>8</sup> "Report to the President on the Use of Technology to Strengthen K-12 Education in the United States," President's Committee of Advisors on Science and Technology, Panel on Educational Technology. March 1997. Accessed at <https://files.eric.ed.gov/fulltext/ED410950.pdf> on 21 March 2022.

on the table in a PCAST meeting, it was not a lot that could be decided there, and it could in fact, kind of, pull you off conversation and so let Kerri-Ann [Jones] carry it up and deal with it and think about it. Because it was an international issue because by representing the United States there, that was being done because of the other countries that were at the pole. I mean . . .

**EVANS:** Right. That makes sense. Yeah, and then the pole got . . . the facility got funded?

**MALCOM:** Yes.

**EVANS:** Well, that's . . .

**MALCOM:** Which is what you wanted to have happen.

**EVANS:** On some level, it's the same thing with NSF like raising this issue and getting it to the right person to work . . .

**MALCOM:** Yeah. But it was a lot . . . You know, the thing is that NSF could have taken it in themselves, and I'm sure that they did. But I . . . but taking . . . but I raised it in a way, I think, I'm not sure my NSF colleagues would have raised it. I tried to help them see this was not about getting more money into NSF; this was about dealing with something that could become a problem. And that was a case of where keeping my hat separately . . . I was not <T: 15 min> speaking to them as a member of the Science Board; I was speaking to them as somebody who, because I was a member of the Science Board, knew that there was a problem here that needed to be addressed and it could only be addressed beyond the [National Science] Foundation.

**EVANS:** That makes sense. So there's education. There's the [pole] station. Were there other . . . going into PCAST, were there are other issues that you thought would be a good . . . PCAST would be a good conduit for you to raise particular issues or certain research areas?

**MALCOM:** I did. Again, I only did that when it seemed like the intervention was needed. Otherwise, I basically . . . I was a good soldier, I went with whatever the issues were that were being discussed like issues of biodiversity, issues of loose nukes that needed to be addressed, issue of an energy strategic plan. I mean, there's always a lot of things that are bubbling through PCAST at any particular time.

**EVANS:** Did you think . . . so that's one of the concerns—not concerns—but issues raised about PCAST asked about what it should be focusing on.

**MALCOM:** Right, we had that discussion.

**EVANS:** Yeah, so . . .

**MALCOM:** We had that discussion. Yeah, pretty early on we said, “Well, we need to deal with what the President wants us to deal with. If the President has an issue, then we need to be open to dealing with it. But on the other hand, we need to be, kind of, an early warning system for the President if there's an issue that the President needs to be aware, and the President doesn't necessarily know that it's an issue, then that would be one of the things that we needed to be able to, kind of, look over the horizon. Because it wasn't just near-term stuff, but it was like further out stuff. I mean, the education technology thing was a further-out issue. Yes, there were components that were like immediate and now and what have you. But in terms of trying to improve the quality of education in the . . . and the use of technology to assist in that, that was going to stay with us as we see so well. We could not have envisioned a lot of the things that we now have to use in order to address what we are now dealing with, but that was . . . those things were on the horizon. I mean, one of the first things that I voted on when I was on a Science Board was the—as I think I mentioned—the money to move from NSFNET [National Science Foundation Network] to the Internet and to give money to the private sector to actually assist in that conversion. And so yes, the seeds of all of today were being sown then. But the question about can you use this technology to enable positive kinds of changes within education was one of the major pieces that was being asked.

**EVANS:** And so with this technology report and other reports, there's been . . . a kind of how prescriptive should PCAST be about recommending budgets or involving themselves in the appropriation—not appropriations [process]—but the President's budget and when it goes to Congress, did you feel like there was a discussion within PCAST that was talking about this particular issue in terms of involvement. . .

**MALCOM:** You're always discussing how far you should go. I mean, that's inevitable, you know we had no authority, we could only recommend, and I think that we hit a sweet spot by agreeing that if you recommended something that was, like, so far out, you weren't going to get it anyway and you'd likely lose credibility. But if you could find something that could give you answers and insights and, kind of, what is the going in investment—what does that need to be? I think that that was the way that that PCAST decided that we would work. You don't want to lose credibility by being **<T: 20 min>** [. . .] by being overly prescriptive because an administrative body has to find its own way, but by pointing out design parameters, by pointing

out possible barriers, by pointing out possible quicksand, by, you know, by raising the concerns that I think that anybody who is going to be a good advisor is going to raise.

The other thing too is this was very . . . which was very interesting . . . we decided early on not to do a lot of reports. The PCAST before us had done a lot of reports. We weren't staffed up to do that, I mean, as indicated by the fact that David [E. Shaw] used his own money in order to get us staff sufficient to be able to get something credible. We didn't have that. Do you know we all had day jobs? Even at that we spent a lot of time, I mean, obviously trying to pull all these things together. But we did fewer of the big reports that the previous PCAST had done. We did more of the kind of letters that you would expect an executive at that level—the President of the United States—to read. You'd give them two, three pages you can read that well—most people, okay? But the reports that were like many, many pages you still had to say, “What is the bottom line here?” I mean, even if it provided all the evidence and the thinking and the rationale, the logic, etc., you still had to be able to say, “Okay, this is the ask. This is the problem, and this is the what we see as the way to approach it and this is the ask.” And in our case, you know, that letter format worked well with the President. We would often get letter . . . get stuff back that had President Clinton's scribbles where he had actually written on the material. He had read it, he had written, and he had responded. He had basically directed somebody to do something about it. I think that it's always a hard thing to know how to work with somebody. If they had given him longer stuff, he would have read it. If we had given him longer things, he would have read it because that's the way that we now understand him to be. And Neal [F. Lane] would say, in some cases, he would come in with something short, and the President would then start asking more questions. He wanted more information. Jack [John H. Gibbons]—Jack's relationship with the administration was through the Vice President. He had worked with the Vice President before, he had a prior relationship there, and so he used that conduit rather than the President. I don't know if you've done Neal. Have you done Neal yet?

**EVANS:** We're . . . yeah, we've done three sessions with Neal. He's a talker. So we've gotten some of his DC experience—most of that.

**MALCOM:** Well, I will tell you this. So Neal and I worked together at NSF. So for a while we were the only two Clinton appointees that were in that space. But when Neal was selected to go over to the White House after Jack stepped down, he had a lot of questions for me about the nature of PCAST and the nature of PCAST's relationship to the President and all. And I will tell you that I did recommend to Neal that he go in, in the way he was prepared to continue, not to use the Vice President as a conduit <T: 25 min> as Jack had done, but because he carried that title—he was special assistant to the President, not to the Vice President—that he should in fact ask for his time and get it because I think that we were—to a certain extent—we were hampered by the fact of . . . Jack's relationship to the Vice President and his . . . the fact that it was easier for him to use that route than some other. All right. If that is clear?

**EVANS:** Yeah, yeah. Were there times then when Clinton would . . . the President would sit down with PCAST on particular . . . ?

**MALCOM:** Yes. I mean, the thing is that it . . . but there were a lot fewer times then probably we . . . than probably needed to be the case. We sat down with the Vice President, right? That's why I'm saying you go in the way you want to continue and urge that rather than the . . . using that other route. But remember now, this was a very difficult time. This was during this period when there was the impeachment, when there was . . . he was distracted. And so there were . . . the fact that you could get anything done is probably pretty amazing. I don't know whether the nanotechnology initiative came during that time, but the . . . I can't remember that time part of the timing. But yes, we did get things done, but it was always my sense that maybe we could have gotten more done had we exercised that issue of engaging the President earlier, had we . . . had he not been distracted, had, you know . . .

**EVANS:** Yeah, yeah, so nano I think, was during that time. And I think that's a good follow-up question is what was your perspective? So I think it bubbled up—I think your memory is correct that it bubbled up around '98, '99—and then made it into Clinton's last budget.

**MALCOM:** Yeah but see I had lived with nano for a while on the Science Board. This kind of [Richard P.] Feynman notion that there's plenty of room at the bottom. I mean, I had . . . you know, it was like for me this was, "Okay, this sounds fine." All I'm saying is that I think that maybe we would have been able to focus on some other things that needed to get . . . that needed attention.

**EVANS:** Yeah, was . . . for issues in which you were able to, you know, you mentioned the Shaw report, were there times where then since that particular issue warranted such high level of attention, were there times that you then went to Congress? Did you interface with Congress at all in terms of the budget process where they're, say if . . . ?

**MALCOM:** Well, my interface with Congress was through NSB. My biggest interface with Congress was through a National Science Board issue. I think I mentioned to you before about PACI [Partnership for Advanced Computational Infrastructure]. I'm trying to think what it stood for. It was this huge high-performance computing . . .

**EVANS:** Oh, yeah.

**MALCOM:** Collaboration—the PACI. We had, I think, six supercomputer centers, and there was going to be a lot more money that was going to be used, but it needed to get the numbers

down from that to four, I think it was. And <T: 30 min> so everybody was . . . . I think I mentioned this to you before; this was when I was at the NSB and everybody had a conflict, and mine was minor so it could be cleared inside of the Foundation. But that Neal's and Dick [Richard N.] Zare's was that their conflict could be cleared, but it could only be cleared by the President. I know this was during the first . . . the early years because Marcy actually—Marcy [M. R. C.] Greenwood—actually, kind of, managed the process internal to the White House to get Neal and Dick clear . . . waivers for their conflicts because it had to go through White House Counsel and be some signed off by the President in order to deal with that and get PACI. The Executive Board [Executive Committee of NSB] had to approve, and I was on the Executive Board, and Diana Natalicio and I were the ones who were . . . did not have conflicts, but there's five people on the Executive Committee. One had a conflict that was could not be waived, and Diane and I had conflicts that could, and then Neal and Dick had to go through the White House, but the four of us were able to vote on that and get the package of proposals through. But it caused all kinds of problems in the Congress; the Congress was not happy because they thought that the process . . . they didn't understand the process; they heard that there were two people who were only present at the deliberations for a very short period of time. And yet we approved this, and it was like, okay, here we go. And so there was a hearing. I think that Adam Schiff [D-CA] was in the chair, but in any case, you can find this. You can find it. You can find my testimony.<sup>9</sup>

Dick and Neal testified, and Juris Hartmanis, who was the person they brought back. He had been inside of the Foundation as an assistant director, I think, and they brought him back in order to manage this thing. And I think he might have testified, but the point was that their testimony had to be cleared and prepared internal to the Foundation and OMB [Office of Management and Budget] and mine didn't. I wrote my testimony. I had [somebody from inside NSF offer] to do it. And I said, "Nope. It has to be my voice." You know, I have to say what I have to say with regard to the process, how was handled, what it entailed. Because at that point, it felt like all right, you guys are fine until the outcomes are not exactly what you want. And to me, that felt like people wanting politics to trump process. The process of peer review that we had that we had to manage this. And so you can find my testimony. I was very direct, and yes. [laughter]

**EVANS:** Yeah, I look forward to . . . . I'm sure I can track it down. Where there are other times where you were . . . where you appear before Congress where there were hearings for you . . .

**MALCOM:** I may have, but that one was unforgettable.

**EVANS:** Good. No, that's interesting story, and I look forward to . . .

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<sup>9</sup> "Hearing Summary: House Basic Research Subcommittee Hears Testimony on NSF Supercomputing Program and New Major Equipment," National Science Foundation, April 9, 1997. Accessed at <https://www.nsf.gov/about/congress/105/hspaci.jsp>.

**MALCOM:** Oh yes, that was a Shirley story.

**EVANS:** So then what . . . so in terms of resolving the conflict were they . . . how did that then then proceed in terms of . . . ?

**MALCOM:** Essentially what they had to do is they had to look not only at who was the prime who the prime was supposed to be, but who all of their collaborating institutions were, okay? And then to determine what our affiliations were as Science Board members and then see if there <T: 35 min> was a . . . see what the distance was between the institution that was supposed to be a collaborator or a prime or what have you and each of us. I mean, in my case, my husband worked for an institution that was one of the partner institutions, but it was a totally different part of the institution that he worked for than was the partner. So I can be cleared, right? It was . . . and other people could be cleared because of that, but it ended up that we only had . . . there were basically most of the . . . many of the people . . . more people out of the room or maybe . . . no, I think was about the same number of people out of the room as in the room. And those of us who were in the room had to do all the questioning, we had to raise all the points, we had to clarify all of the things . . . although everyone got the documentation. And I think that this was an element that [the congressional] committee had not understood and that was—but that I said—you know, there was like six inches of documentation associated with that particular decision. And we all got that information, and that we all had to read it and look through and see whether we were satisfied with the process, etc. and ask the questions that related to it. And then when our colleagues were able to join us—the ones that it had the conflict issues—they were able to join us, we then briefed them in terms of saying what we did, what questions we asked, which clarifications we got, and what recommendations we would make. And they could read all the materials. I mean, these were adults, they . . . it wasn't a difficulty.

**EVANS:** Gotcha. So I want to turn back to PCAST if that's okay. Did you have a working relationship with John Young? What was his, kind of, role within PCAST as co-chair? Was there in terms of meetings, was there a . . .

**MALCOM:** We had . . . I mean, I interacted with John in the meetings. I had no separate kind of set of relationships or what have you. I think, as I indicated—I might have indicated—to you before John [Young] was . . . had not been known to me. Jack, I knew very well for years. John Holdren, I know very well from AAAS. I mean, they were . . . Francisco [Ayala], I knew from AAAS. So there was this whole group of people that I already knew very well. And then there were people who were fairly new to me or I came to know them over time. But, you know, I didn't have any special kind of anything with John per se.

**EVANS:** Yeah, that makes sense.



**MALCOM:** Yeah, he was a captain of industry. I was a lowly person in a nonprofit. [laughter]

**EVANS:** Well, with John, so you mentioned earlier that PCAST was focusing on letters. John wrote a couple of these energy reports that were longer. In terms of those reports, I mean, did you see the same kind of impact? I know that Holdren . . . Dr. Holdren has always been a force to be reckoned with. Is there . . . were these energy reports, did you see them in the . . . what was the discussion in terms of the consensus building towards publishing these as PCAST reports when they didn't necessarily fit into the kind of letter format that you guys had [spoken] about?

**MALCOM:** If, in fact, they could have . . . there was benefit to pushing them out further in terms of affecting the agency or the stakeholder groups or the community or the whatever, then you put them into reports. I think that was probably a wise way to think about it—that they weren't necessarily for . . . the way you communicated with the President was this way, the way that you communicated with community was this way and that that you needed both of those things. But I think that you, kind of, had to do this kind of diminishing returns thing because it required a lot of work to produce these reports and you had to make . . . you have to do this, “Okay, at some point, doing this cost benefit <T: 40 min> analysis, was it worth it, or did you reach some issue of diminishing returns given the amount of effort that had to go into it?” I think that . . . I know that sounds weird, but you're constantly balancing off how much effort you put into this?

**EVANS:** Yeah, that makes total sense. And in terms of funding too, I mean, I don't know how common say David Shaw or others, kind of, putting their own resources . . .

**MALCOM:** Well, David was unusual. He got caught up in the issue. And then it was almost like somebody who reads mystery stories like me. I was as interested in the mystery as I was in the . . . so it's like, “Okay, I'm really interested in this and what is this telling me. How can I know more?” I mean, it's just David's natural curiosity, you know, trying to understand a really technical and thorny problem. But you know, you think about it, you see somebody like David, he thinks about things being reasonable or logical, and I had to disabuse him of the fact that reason and logic don't operate in all those settings, that in fact that that's not necessarily the way that things worked. [laughter] It was better if there were some greater introduction of reason and logic into some of this. But in fact, that wasn't what drove the trains.

**EVANS:** No, that makes sense. So that's interesting, too, I think. So Shaw must have been . . . I believe he was on . . . Was he also on . . .

**MALCOM:** He was on the Obama . . .

**EVANS:** PCAST as well.

**MALCOM:** PCAST as well.

**EVANS:** I mean, yeah, I [hope to] get to speak with him at some point. So I think you mentioned that kind of had this core group of people that you knew and that you worked with previously going into PCAST . . .

**MALCOM:** Yeah, and then a group of people that I came to know well and work with. I mean, like on the education side—among those of us who were like sitting in that particular committee—David Hamburg, I had worked with for years and [was a] very close friend and so I got . . . you know we knew the . . . I didn't know David Shaw. I came to know him and like him a lot. He was earnest, as I said, he made huge investments in this because he became really deeply embedded in the questions that were being asked and so, yes.

**EVANS:** That's really good. And this education report has been mentioned several times by different PCAST members as being one of the more impactful . . .

**MALCOM:** Yes, absolutely. I just don't think that money would have been forthcoming if the issue had not been laid out about why it was needed and what . . . I mean the thing is that, to be honest, the President was predisposed to be concerned about education. He had been an . . . I mean, he was an education governor, so coming with a plan about how we get better at this, I think he would have been open to from the beginning in any case.

**EVANS:** That makes sense. So you came to know people, was there then—I mean, this is almost like a leading question—but a benefit to the whole . . . there's discussion about whether you know PCAST members should serve period of time, like in the way that NSB does or whether they continuously serve, say if a President has two terms, whether there should be kind of staggered . . .

**MALCOM:** There were additional people that were added. But I . . . and I think some people may have been a couple of people dropped off—I can't remember—because I remember at one point, John—John [M.] Deutch—came on, but the core group stayed through both terms. <**T: 45 min**> And I think that there is a value to that because you don't get through an issue in one term. These are not the kinds of things I'm going to solve in two years or even three years.

Sometimes they are things that it requires an action, a reaction, and then another something being proposed. And I think that that's kind of where we were. Different people can bring in different strengths. John brought in security concerns that the rest of us may not have had or had access to. Or there may have been problems that we didn't know anything about that were sitting in that space.

**EVANS:** Yeah, that makes a lot of sense. Was there . . . and with same with Dr. Holdren's PCAST, many of those members served throughout the whole eight years.

**MALCOM:** Yeah. I mean, I give you an example of President [Barack] Obama's PCAST. My friend Jim [S. James] Gates [Jr.] served the entire time and he had a major role in their education stuff. So he did . . . they did the first report I think the first term, and then the—that was the K-12 report—and then the undergraduate report came later. But I think it might have straddled the two terms. But the point on all of this is that he had the institutional knowledge from the first one in order to help manage during the second one and if . . . I was thinking if he had dropped out—off—I'm not sure, you would have gotten a second report at least in a timely way that you did or as clear and focused as it was. I like the second report a lot better than the first.

**EVANS:** Well, they both have catchy names. So that was . . . that's how I always remember them. But the two reports, it's, you know, I think it's "Prepare and Inspire." Second one is . . . it's like, "Transformation and [Opportunity]." No, that's the research one . . . but yeah, they both, kind of . . .

**MALCOM:** That was the undergrad report—the second one.

**EVANS:** That makes sense. Yeah, Dr. Gates—I mean, obviously champion for all things STEM, science. He's really . . . he came to visit Rice [University] maybe two, three years ago, and I got to spend the day with him. It was a really wonderful time. And so I wanted to follow up with again with, kind of, this overlap between NSB and PCAST. So we talked a lot about PCAST. Were there other NSB issues that you felt need . . . were there other, kind of, interfacing between the two boards?

**MALCOM:** Tangentially. One of the things I think you remember that I said that I was trying to make the case for not having to leave the NSB to go onto PCAST and partly this was because the NSB was involved in the development of the strategic plan and that was fraught with all kinds of interesting challenges because the kind of vision of the strategic plan of the Board that I went onto—it was an unexpired vacancy, so I went on by myself—but they pretty much felt that they had finished their work, and I felt that they were crazy if they thought they had finished

their work. And I think I mentioned to you that the report that you . . . remember this was because of the Government Performance and Results Act that it had to be done. And I thought that that report they had finished was backward-looking, not forward-looking, and I doubted very seriously that it was going to enable the Foundation to move forward.

But I felt like an interloper <T: 50 min> coming in and saying, “You know, I don’t think this is going to sell.” So I just basically I said, “You know, you guys, you can go ahead and do that, and I will just do a minority report that says what things that I think that need to be fixed.” Well, no, no, no they didn’t want that, and I mean that there was a very good reason that you don’t want that—you’re on a board that has been appointed by the last . . . past two presidents as opposed to me, who was appointed by the sitting president, and the person who was appointed by the sitting president says that other report leaves a lot to be desired. That was not going to go well, okay? But in the process of getting to a report that was forward-looking, that I felt did reflect the way the Foundation needed to articulate its vision for its future in terms of the integration of research and education, I raised the point about whether or not we needed to also look at the criteria for award of proposals. I think I mentioned this to you, and the end result of all that was to give, was to institute broader impacts as an NSB criterion. And I feel really proud of stirring that pot. And I think that that work was in fact transformational in terms of forcing this, kind of, different look at the work of the Foundation. The PCAST people were aware that I . . . the staff were aware of my machinations in that space—but in terms of that ever, kind of, invading the way that PCAST did its business, again, that was a . . . I was living in my silos, so you pass the information across, but you don’t . . . but not in such a way that you’re necessarily saying that maybe this needs to be done someplace else, although I always felt that this needed to be the way that we looked at funding in any case. As stewards of the public dollar, you really need to be aware of, and be thinking all the time, about how you can give public good . . . I mean, how you can actually provide as stewards of the public money, how you can provide those kinds of goods to the public in terms of the knowledge, the understanding, the what have you. So that was my troublemaking.

**EVANS:** Good, good. I want to, kind of, come back because I know you were one, keeping a day job like you said, as you were in both a member of NSB and PCAST. And I want to get to that and then this . . . we’re still in the nineties, so I want to cover [that] afterwards. I have one final, kind of, specific question about PCAST and I think I want to move on. So one of the concerns surrounding PCAST when it was first created with . . . when it transitioned from PSAC [the President’s Science Advisory Committee] into PCAST . . . was this idea of openness and transparency and the fact . . . did you find and some even raise the issue whether at least in essays and other news items were could PCAST even operate in the same way that it used to—the PSAC model—where had you know those, kind of, behind closed doors directly to the President. Did you find was there in terms of navigating FACA [Federal Advisory Committee Act], was there issues that were, that came up amongst the group or yourself?

**MALCOM:** There are always issues of navigating FACA because there are some things that you want to say in order to disagree with your colleagues. You want to go, you want to take

whatever it is to the public with a united front; you don't want to go all splintered. That doesn't mean that you . . . that everybody believes the same thing; it's that you have come to a space that you can all agree to live in. That's what that means and that you can articulate what the issues are <T: 55 min> that you might have taken into account at arriving at that space. But nobody wants to see sausage made, and it could get to the point where we disagree with each other, you know, in ways that are impolite even. We would get over it because we knew that we were trying to arrive at the best outcome. And I think I mentioned to you before that there were people who doubted that we would get anything done because we were so different. The PSAC people had been a lot more than the same, a lot less diverse, coming from very similar backgrounds. And yes, it was chaotic at first until we could, kind of, predict what the other person would say or think or whatever—what take they would have on what the issue was. And then I think we became more productive because the issues got discussed in the room, rather than having all this stuff then reactions to things that were . . . that we'd come out with . . . you come up with something that hasn't had sufficient vetting, input, different perspectives, etc., and then all of a sudden, all this stuff comes at you. We didn't have a lot of that, all right?

**EVANS:** Let me say this has been just like so valuable to our project in looking at PCAST. So if you had a . . . if you were chair, if you came in, you were chair of PCAST, would there be things now or the way that you would organize PCAST to be what is most effective and as impactful as possible, are there, kind of, guidelines or policy that you think that you would be . . . would implement to make PCAST work in the way that you would . . . ?

**MALCOM:** Well, I will tell you what makes it work, and that is that if you can get . . . you need enough diversity of outlook on it. Yes, you can always get diversity of fields, you can get inputs from other experts, but when you are measuring which way . . . when you're trying to make determination about what recommendations that you should be making, they aren't all about content. They are not all about actors. Some of them are about politics, and, you know, one of the things that . . . I think that I did have an advantage of a lot of years in Washington. So that means that I could say, "Well, if you do such and such, this is the likely political fallout. And if you do such and such, this is the likely political fallout." So that you weren't just making these considerations. Yes, they have policy people; they have policy people downstream, upstream, whatever the stream is going who can make those kind of calculations, but they aren't necessarily always making the calculations at the same time they're looking at the science and that they are looking at this calculation maybe independent of this. So I talk always . . . talk about the third way. Sometimes it's not this or that; it's the third way. It is a way that we could have the outcomes that you want without all of the fallout that is attached to it. And I've gotten used to thinking the third way.

**EVANS:** I like that philosophy. It's good. I want to make sure with Kirstin that I didn't miss anything or if she's got questions if she's still around and . . . or if you have other reflections on your days at NSB or PCAST that you think should be included in the interview.

**MATTHEWS:** Well, actually, I was going to [jump in] for a few questions. And it goes back to actually the last question that Kenny <**T: 60 min**> was asking, which was related to if you could do things, create your own PCAST [policy] right now, I loved your answer about the diversity. I was also, kind of, curious about the process as well. So you mentioned it already that you guys did a lot of letters versus reports and then you found the shorter . . . was that hard to be able to be so concise?

**MALCOM:** Yes, God. I think, in some cases it would have been easier to do the reports because trying to get the salient points in some . . . in really, really short stuff was . . . is not easy.

**MATTHEWS:** Do you think of it more effective being shorter, or do you think you would have been effective . . . ?

**MALCOM:** I do think it's more effective; I do think it is . . .

**MATTHEWS:** Despite of trying to trim down your words, it was a better exercise?

**MALCOM:** I think it's more effective because if people need more information in order to make a decision, they will come back and ask you. All right? But what you have to convince them in the letter is that there is a *there there* and that the point is sufficiently important that if they do need more information that they can seek it but to assess whether or not this rises to a level of importance that in fact they can . . . that it deserves their time. I do understand that most presidents—that the thing that they have the least of is time and attention. They have limited bandwidth—even really, really smart ones have limited bandwidth. They can't deal with everything. And so they don't need you to bring a lot of things to them that can be addressed at a different level. What comes to them is the hard stuff. It's not the thing that a secretary or an administrator or whatever it is can do. It's the hard stuff and the . . . or where it requires their making a priority, setting a priority, or rearranging a priority that may have already been articulated. It's sometimes hard because—what do I mean sometimes?—it's almost always going to be hard because there are people with . . . who are territorial and they want things to go at a particular way that may be able to advantage them. And that's one of the things that I think that PCAST has to do, and that is, not be territorial in the sense of recommending how something might be done, who should be the lead, where . . . what the particular issues are, etc. And I think that it gets . . . a President appreciates that if, in fact, they have voices that are outside of the people who are necessarily going to own whatever program it is and that there is an articulation from somebody who's looked at this from thirty thousand feet and then from ten thousand feet to see whether . . . how this might work or how it might work better.

**MATTHEWS:** I know that the role is really involved with working with the White House, giving recommendations to the President. But we actually when we were studying it, we talked with some of the staffers in Congress who mentioned and I think Clinton and Obama administration both had . . . Obama's was mostly reports. Clinton had reports and letters. They didn't always know what to do with the reports. They said there was a lot, and I was just wondering . . .

**MALCOM:** That's my point.

**MATTHEWS:** If there was anything that PCAST—how they engaged . . . did you guys engage with Congress that much? Was there any relationship, or was it all with the White House?

**MALCOM:** I mean, the thing is that like with our education report, that was going to require new money. You could not move pieces around and so you have to be willing to talk to the people who had to . . . who were going to have to pony up the money and you were going to have to be willing to help to bring them along—David, I think, did a lot of that—but to bring them along in terms of answering . . . being available to answer their questions. The ask was . . . . I mean, it's an ask; you asked a president to make that a priority, you ask the Congress to respect that priority <**T: 65 min**> when it comes because of ABC, X, Y, and Z—whatever the issue is that has emerged. Yeah, the thing is that's one of the problems with . . . . I think that's one of the problems with reports and that is that you can lose your way in terms of who your audience is. Who is it that is going to have to make a decision? I mean, you're writing it for the President, right? But it requires resources. It has to be translated for the congressional people. So I think that this notion of who is the audience is an absolutely critical one. So if you're asking me about any PCAST that I would put together in addition to diversity, I would have some people on there who really had to engage with different audiences that we're going to be at the end of this when the report rolled off the line, the fact that they need it to be a target for it.

**MATTHEWS:** So what I'm understanding is that the letters were always written in reports to the President, but there also were other stakeholders that you would keep in mind when producing . . .

**MALCOM:** Yes.

**MATTHEWS:** Making sure that they understood and could read it as well because those were the people with the President, who would actually . . .

**MALCOM:** The president couldn't do it by himself. I mean, that was and whatever it is that you're going to ask, it wasn't like it . . . make it so, you know, Jean-Luc Picard kind of a thing. [laughter] It was likely to require fiddling with processes, other stakeholders, other whatever. I mean, I'll give you an example. The second report that came out of PCAST—the second education report, the Jim Gates report. That report identified mathematics as a real problem. And I don't know if you realize that the math community basically responded because they don't . . . they didn't like to be called out. So, but the response was not, “How dare you call us out.” The response was, “Wait a minute, people. They're talking about us? Do we wear this shoe if the shoe fits? Do we really wear this shoe? How can we begin to change in such a way that we respond to the things that are called out here?” So now that's not necessarily something the President could do anything about, right? The President could make more money available or could recommend more money be made available to the agencies that fund that kind of reform. But the kind of systemic structural reform that was going to be needed in mathematics, that was something that the math community had to own and so that's why I'm saying all these things out there have these other audiences.

**MATTHEWS:** And then also I was, kind of, curious about the topics that you . . . groups you went into, ideas, the reports and letters. Was this generated inside PCAST? Externally as suggestions from outside to PCAST? Did you specifically have ones that you walked in thinking, “This is what we need to, I need to do?”

**MALCOM:** Well, there were some that came out of PCAST. You know, we all go with our agenda. Let's be honest. But remember now, I said before that there were things that the President wanted to know and then there were things the President needed to know. Okay, the things that the President needed to know, and he wasn't necessarily asking about were coming out of the membership in terms of, “These are some things . . .” And they were also coming from friends who were in agencies, from, you know, <T: 70 min> from the larger community that would say, “Have you guys looked at A because A could be an issue?” The things that he wanted to know, they were coming out of the administration. So I do think that you had multiple ways for stuff to get in.

**MATTHEWS:** And they would . . . the reports were mixed of those, would you say proportionately—about half and half?

**MALCOM:** Yeah. Usually, the things he wanted to know were on a much faster track and they ended up being more letter-y than report-y.

**MATTHEWS:** My last question, which Kenny might have more still, is actually about you as being an African American woman on these committees. Did you ever feel like that made you different in a negative way? Was it all you've mentioned it as a positive obviously because



you're bringing, you know, new perspectives, different ideas out there that they might not have had before and that's, I think, why your committee was really successful? Are there . . .

**MALCOM:** I am sure . . . let me just say this. I think you guys have been paying attention to what's been going on in the world. So you know that in so many cases we will show up places, and people will wonder if we're in the right place. Then if we go on . . . And you have some of that operating . . . I think I mentioned that it used to bother me in the sense that the assumption was that I was there as an affirmative action appointment. I don't know if I ever said this, but it didn't bother me. My feeling was I'm in the room. It doesn't matter how I got in the room; what matters is what I do when I'm in the room and whether or not I can actually make a contribution. But I'm sure that people wondered, "How did she get here?" I mean, I was not a major professor, public blah, blah, pooh-bah, or president of anything. I was basically somebody who ran critical programs at AAAS, but I was basically just a regular scientist, trained as a scientist who hadn't really worked in that role. I worked in this other kind of crazy policy space for a long period of time. And I had to get to the point where I became . . . I could get over this and say . . . and in some cases to become more bold than I would have ordinarily been. I might have just sat on the sidelines and watched the play of the game, but I realized that I'm the only one in the room on this one. And if I don't say something, nothing will be said, and I think they're making a mistake not to take this into consideration. I had to get over my own hesitancy about speaking up and speaking out. You know, kind of a John Lewis mantra thing: you hear something is off, you gotta say something.

But over time, I did get to this space where I enjoyed being underestimated. People look at you, and they say, "Oh, the affirmative action person is coming into the room. We don't need to pay any attention to her." And that doesn't last long because I knew that I had to do my homework and that I had to have something to say. I had to have read and had something to say on whatever the issue is if I had something to say. It wasn't just on education. It wasn't just on diversity and inclusion. It was . . . it included other areas. And a lot of it <T: 75 min> was about how people and how the science community interacted with the public and the fact that there were a lot of publics out there and that they were being overlooked and that this was a mistake. And so I had to get beyond the vibes that might have met me when I initially went into this space and be willing to speak up. I think over time, people began to appreciate and understand that about me and understand that if it was a problem, I was going to say it was a problem and began to see how valuable that was—that somebody says in the room that it's a problem and not let it get out of the room before it gets identified as a problem from beyond that—whatever that entity is. So yes, I have had those encounters. Yes, I've felt like I was consuming too much airtime because there were too many things that needed to be said that nobody else was going to say. But it wasn't about me, and I had to understand that I had to speak for the people who were not in the room, and that's it.

**MATTHEWS:** That's all my questions right now. Is there anything else you want to talk to us about that you like to have included—whether it be your perspectives on the PCAST or maybe

even looking forward, how did it impact you when you . . . after you left it—that experience working and . . . ?

**MALCOM:** Oh wow, well, I mean the thing is that yeah, you're right, it really did it impact me. I mean, first of all, I got a whole additional network of folks that I knew. I had a much greater attentiveness to the kind of policy issues and what have you and how they impacted different populations. I had a lot of respect for the kind of priority setting that has to go on. You can't do everything. How can you be strategic? How can you think about these . . . the choices that you're making? How do you serve in ways that really are true to the best aspects of being a citizen scientist? How do you carry out your civic duty in this kind of space? And I've thought about this a lot, and I thought about the kinds of skills that we need to imbue emerging scientists with—the communications, the attention to the political aspect, but also the attention to community, the need to be . . . to understand that we have special knowledge and therefore special roles and that means special responsibility and how do we carry that out in a way that is responsible? So yes, it changed me, and I hope for the better. Made me much more aware that it was a big world out there, and we were the ones inhabiting it and that everything could not be about us, that the world was incredibly interconnected. I mean, there's lots of stuff that you . . . that, kind of, they move from down . . . they get lifted up in your inbox. <T: 80 min>

**EVANS:** Well, thank you. I think we want to turn towards . . . so during the PCAST/NSB years, of course, you're still holding down . . . and been working full time at AAAS. How was then—and you've mentioned how, you know, you've taken that experience and it's shaped the rest of your career and perspective—so during those years in the nineties, what were then—did that, kind of, changed your focus on how . . . what you were strategically . . . what you were thinking about and what you were working on in AAAS?

**MALCOM:** Strategically, I was thinking about the fact that I would never ever have a staff big enough to take on the size of the problem and that we needed a lot more partnerships, we needed to tell our story, we needed to enlist an army of people who were involved in addressing the challenges that we had, and that was a large part of that time was about reaching out to other kinds of organizations about trying to address some of the real issues that we had. For example, we talked about technology, and there were a whole bunch of people who didn't have access to technology. We did a lot of work trying to imagine what it would take to get technology into communities, what would it take to address these larger workforce issues. But the other thing, too, is the, kind of, reframing of a lot of the work that we did around the policy applications, seeing that the demographics were shifting big time, but that the institutions were not preparing for the demographic shifts, either educational institutions or policy ones. There are assumptions almost that the same group of people who had populated the scientific and engineering communities of the twentieth century are going to be the ones who are going to populate in the twenty-first century. And I knew that wasn't the case because you see, you were constantly looking at the data and you were looking at the . . . you were looking at the data, you were looking at the changes in the population, you were looking to see that women were a much

bigger part of this community, that people of color were a much bigger part of this community. Trying to understand what was going on with regard to the shifts in the legal community. For example, when the Supreme Court heard *Adarand v. Peña* and then decided that they needed to . . . that the administration decided that they needed to look at all their programs and look and see whether the race-focused programs and examine all these and stuff started to move out. We started losing programs, we started losing population within medical schools and law schools and what have you under these . . . under the court rulings and the state referenda.

So the questions that that raised was okay, if not . . . if we can't go directly at that—at issues of race or gender or what have you—what do we have? And I think that this was partly what stimulated broader impacts to get people to look beyond just what that science was, to whom that science impacted and affected but it was also a need to look at what was the role, what was happening in universities with regard to what were they doing. They were receiving these federal funds for research, but we weren't necessarily seeing that they were paying that much attention to addressing this human resources issues. So it was a matter of kind of blowing this issue up again and trying to understand how you could start taking on some of these issues. Remember I said that understanding that scientists needed to be better communicators, I spent a big focus on some of this—this notion about how do we begin to <T: 85 min> support this within the careers of young scientists. So yes, it affected the way that I saw my work. The needing to move structures, needing to enact policies, needing to make structural change, needing to think long-term, big time, beyond specific interventions. And the . . . those years, that's exactly what we spend our time trying to do. I mean, we sit here now with a signature program of SEA Change [STEMM Equity Achievement Change], which I think is an amalgam of all of what we learned, and that is that we've got to do a structural change and that the way that organizations . . . the policies of organizations and the decision-making processes and the practices and the traditions and the norms and values, etc. All things that shape the decisions that get made about who gets access to what, and so you've got to go after the structures themselves. I think we've all . . . we always knew that, but we didn't know how to get at it.

It's been a much more recent thing that we started SEA Change in 2017. But SEA Change built on everything that we learned from 1979 to present kind of a thing because we'd done it every other way that we had . . . that we possibly could have imagined in terms of trying to move the numbers, and the numbers were not moving. If anything, they were moving in the wrong direction. And so we had to envision totally different strategies, totally different ways of thinking about the world, totally different understandings of colleges and universities and of the role of professional societies, the role of government, the role of government at all levels, the understanding of the . . . of a lot of the legal and judicial rulings and how that put barriers—what barriers and what guardrails, as it were—that that put in place, and then how you could begin to move those. I mean, that was all, kind of, accumulated knowledge from this whole set of things. But, you know, it wasn't all about that. It was also a time when I got engaged in issues related to big science and began to understand why fundamental science was so important and so critical and had to be protected.

One of the early things that I got to vote on when I was on the Science Board was LIGO [the Laser Interferometer Gravitational-Wave Observatory], the construction, I told you. And

for me it was incredibly exciting twenty-seven years later to be able to come back and say, “Guess what, people? You know that thing that [Albert] Einstein said was the case, it was the case.” It’s just we didn’t have the tools to detect it until then and now, it has opened up . . . it has just opened up everything. But the other part was that I . . . that sometimes you get caught between the past and the present, and I’ll give you an example: that the astronomers were not happy about the amount of money that was put into LIGO because the . . . here with these physicists once again coming in, asking for huge amounts of money and if they got it, then [the astronomers] wouldn’t get it, right? They would say, “Well, we had our meeting, and the astronomers said, this is the next instrument we need and this needs to be prioritized and what have you.” And it was as though, “Okay, if we meet and say that this is what we need, then this is what we need. Just <T: 90 min> send the money.” And I said something at the time; I said, “That’s the astronomers’ priorities. That’s not the Foundation’s priorities. The Foundation has to be given the opportunity to set its own priorities.” You can’t say, “Well, you know, increasingly, the silo from here and the silo from there, and the silo from there and what have you, and they all want X amount.” But it was . . . but I think that that still hasn’t been really addressed yet and that is, how do you decide what that next big opportunity is that you need to invest in. Right now, there are groups that have, you know, have made their list of things that are exciting and that they need to invest in—quantum computing and AI [artificial intelligence] and you know, you know the list. I’m like, “Okay, who made the list? What’s not on the list? Who was not asked?” I mean, the same questions. I keep asking the same questions over and over and over again. I start to feel like a broken record. And yeah, it gets old.

**EVANS:** Yeah, I can imagine. I mean, that raises, kind of, a . . . just a really interesting question of who should be making this list. Is it . . . I mean, since you’ve been so involved with NSB, PCAST, the American Academy [of Arts and Sciences], National Academies. Is there a body where you feel like has the, kind of, breadth of expertise and also diversity to be able to prioritize science? There’s . . . I mean, this has been an issue for so long.

**MALCOM:** A body, no. You asked me. [laughter]

**EVANS:** Currently, there is not one then?

**MALCOM:** A community, a process, there could be. I just don’t think that that has been perceived as being important enough yet. But you know when you live in a democracy and you talk about the fact that you need a certain amount of, kind of, collective agreement about what we want to do in terms of [what to] go for. I understand we have representative government, but we can also talk to our governments and talk to our congresspeople, etc. Some groups have too much clout. Lobbyists who can come in and write legislation that they want passed as opposed to ordinary folks like me, okay? But in a way, I am not ordinary in the following way: I actually understand how the process works, and most people don’t necessarily, and understand how you

can get input into that process, and most people don't. But I think that has to be a much bigger conversation about what people want us to aspire to and work on.

Right now, for example, you know what we need right now? We need better, more distributed, cheaper Internet access. Right now, the . . . in terms of our kids and their schooling, we need devices that are more powerful. At the same time, they don't cost an arm and a leg. Many services people cannot access unless they have Internet access. Yeah, I was looking at data in terms of like the kids who have . . . the percentage of kids who have Internet access. Black kids, 90 percent of them have Internet access, Asian kids 98 percent, White kids 96 percent, but—but!—for most of those Black . . . for many of those Black kids, the only access is through smartphones.<sup>10</sup> So . . . <T: 95 min> and the reason that that is given in the surveys that I was looking at as to why they don't have that access is something that you can imagine. And that it's just too expensive, right? We can do better. I mean, there are different models that we can imagine, but you can imagine the lobbyist for the telecoms that would come in and want to shut that down. And I . . . so this notion of how do we . . . how can we be responsive to the needs of the most marginalized communities. We can't even . . . there places that don't even have clean water still—okay?—and so this notion of providing opportunity and access is still one that we've got to be fighting about and fighting for. And at the same time that I can have a wonderful conversation about LIGO and be excited about LIGO and help other people be excited—even people who don't have a lot—to find the things that can make them, that can excite them about these findings. Look at the interest in space that is exhibited, kind of, across all different groups. But I think that we've got to be attentive to the fact that there are people who . . . for whom access is limited, and I . . . we can't afford to waste talent. We can't just write them off just because they are descendants of enslaved people or because they are food and housing insecure or what have you. So I think that . . . I think about, I guess it is the contrast between the wonders of science and technology and what they've been able to produce on the one hand and the needs of people on the other, and the need to basically bring these close together—that science and technology can solve, that within that they can solve the problems of people who have incredible need. So you asked me about the list. You know, and I . . . so who creates the list? Are the people who create the list sufficiently attuned to the needs of those who require that science serve humanity?

**EVANS:** Yeah, yeah. I'm right there with you. Without expressing too much of my personal opinion, I also . . . well, my follow-up question is immediate. I've seen so many of these . . . between institutions' different plans for equity and access. Are there universities or other, you know, institutions in our . . . in the scientific community that you think have it right, that they're taking the right steps—maybe on an institution by institution basis towards really addressing marginalized folks?

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<sup>10</sup> See "Access to the Internet," National Center for Education Statistics. Accessed at <https://nces.ed.gov/fastfacts/display.asp?id=46> on 9 January 2023.

**MALCOM:** It's an institution by institution basis, it's a field by field basis, it's a whatever it is, and that's one of the things that we've been trying to do with SEA Change and that is to offer scaffolding frameworks so that more institutions can get it right by asking the right questions because that's it starts with the right questions about where am I in terms of self-assessment. Where am I? What am I doing? What are my conditions? What are the situations that, you know, do . . . are things that I'm doing barriers to populations because . . . and I will give you an example. Because right now, it just doesn't sound like an example, but anyway, I'll give you an example. <T: 100 min> All right. When you go and apply for college in California—you're in California—they allow you to count AP courses that you may have taken and passed. So the highest grade point average, for example, is not necessarily 4.0, right? It's four point something depending on whether that was an AP course or what. So you can get a whole bunch of students who finished with a 4.5 or 4.6, and they can knock out the students who finished . . . may have finished with a 4.0, but they came from an institution that didn't even offer AP. So you tell me . . . you know this is a case where opportunity and access need to be taken into account in which case, you've got to, kind of, balance what you did with what you had, as opposed to what you had. These are hard . . . these are really hard policy questions. And unfortunately, they are . . . they have all kinds of legal aspects that also pertain, and so getting the questions right is really, really important.

**EVANS:** Yeah, I couldn't agree more on this issue, and I think it's a good transition to talking about your work in terms of chairing or editing other larger reports through the National Academies and the American Academy [of Arts and Sciences]. Have you found . . . so specifically with the National Academies, could you maybe talk about your role there and your experience with that institution?

**MALCOM:** Well, okay, well, I think I will start with the fact that I received the Public Welfare Medal in 2003. And I was honored because quite frankly, I didn't see that one coming at all. But it really recognized . . . I received it to recognize all of this diversity work that I had been doing over the years and that was so that, they say, that one hit me from out of . . . and yes, I served on committees and what have you, and I chaired the panel [committee] on Barriers and Opportunities in Completing 2-Year and 4-Year STEM Degrees. And is that a different report because I did it? Yes. Why? I absolutely insisted that every bit of data and every bit of analysis be totally disaggregated, okay? Hey, that may have been in the charge, may not have been in the charge, but if we weren't going to really understand what was happening until we could understand what was actually happening for different populations of students. And so, yes, it was different. The other way in which it was different is even though we said two-year, four-year STEM degrees, I had—because of my daughter—really begun to understand what was happening in two-year colleges and that was [where] a lot of the students of color were . . . that's where they were. That's where they were situated, and if you were going to get them into STEM, you get to deal with a two-year college. So we went, you know, we doubled down and tried to deeply understand what is going on in two-year colleges. And the two-year college people were so grateful and that's horrible that they were grateful for us doing our job because in so many cases, their role and their issues have been overlooked. And so when you come to an

experience like that, when you come to that role with an understanding that you had to disaggregate, disaggregate, disaggregate, that you had to really get underneath these kinds of concerns, yes, you do understand a lot more.

I serve now on the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine, its heavy focus right now on the medical fields made even more desperate by the fact of COVID <T: 105 min> and its impact on Black and Brown populations and the lack of access to care that is needed by the same populations and the falling participation of Black and Brown people—especially but more Black people than Brown, their numbers are going up a little bit, but Black people are going down, especially Black males. And understanding the barriers to a lot of that. My . . . the fact that I have done work from pre-K through post-graduate in my time at AAAS, I’m able to bring that into the roundtable and help to, kind of, lay out what some of the issues are, what are some of the policy challenges that are going to have to be realized in order to move some of those . . . so I think that, I hope that all of these years of experience are an asset to people who really want to look at . . . look systemically, and they want to look at structures, and I feel like that’s what I need to do right now, along with helping to raise the next generation of people who are going to carry this fight on. This is . . . you know, I’m at the end of my career, I am . . . I want to work with these thirty-something and forty-something and fifty-something-year-olds to help them, to the extent possible, position themselves to continue this this work. This is not something that . . . I may not see anything . . . I may not see the changes in my lifetime. But I have children—girl children. I have grandchildren. You know, you kind of have to imagine what is the world they are going to inherit, and will they still be confronting the same issues that I have confronted my entire life. And you just can’t keep going down . . . going that way, and I do think that as they say, for the time that we have, we have to do the most, the best that we can with the tools we’ve been given, you know, for the time that we have. And I believe that.

**EVANS:** Are you finding . . . so for training the next generation of students and administrators and policy folks and people that are really going to continue the same fight that you’ve fought, are you finding more of an interest in the last . . . like has there been a . . .

**MALCOM:** Spike?

**EVANS:** Spike, or even if not necessarily a Trump bump, but something in which there’s been a gradual change in terms of interest of either . . .

**MALCOM:** Yes, I have seen more and more people who are interested in policy, for example. And I . . . long time ago when I used to give presentations on policy and people like [snoring noise] snore. And I said, “One of the things I want you to understand is that even though we’re all in a game, somebody writes the rules, and policy is a statement of the rules of the game. And that therefore, I want to understand that the rules matter and that therefore the way that this

happens needs to matter to you.” I’ve seen growing interest; I’ve seen growing attention. I think that there’s that there’s a lot of frustration because people don’t necessarily know what to do with that unease, with that attention. And a lot of people say, “Well, you know, I want to be a policy fellow, I want to come to Washington.” And what I say . . . I remember speaking to this group—I think it’s CASE [Catalyzing Advocacy in Science and Engineering] Group that comes into town with AAAS—and Joanne asked me—Joanne Carney—asked me to speak to them. And the first thing I said was, “Every institution has policies. Don’t think you have to come to DC to make policy changes. <T: 110 min> Every organization, every college, every university, and you’ve got to see them as an opportunity to make change in the way that they do business.” And I think that that’s a message that really needs to get out there to the young people, and I try to carry it to the extent that I can because quite frankly right now, it can be really frustrating working at the national level. There’s a lot more movement in some cases at state and local levels and within institutions, and so you cast down your bucket where you are, get . . . you know, kind of, get it . . . get an understanding of where the opportunities may be.

**EVANS:** Yeah, that makes complete sense to me. I’ve been really encouraging graduate students to think about where we’re at Rice University to think about Rice’s own policies. Many of them are focused on a national level and, of course, they want to burst in and change everything—right?—which is great, but trying to get think about their own institution’s policies. So that brings up a question I was thinking about earlier. And I know we’ve been going on about two hours, so we can save it if you’d like to take a break or if Kirstin . . .

**MALCOM:** No, go ahead. Let’s push on.

**EVANS:** Okay. Yeah, so I was thinking about if you after you . . . after the Clinton administration, so you were one of the signees on the . . .

**MALCOM:** Yeah, and we went into the Bush administration.

**EVANS:** So what was that transition like for you?

**MALCOM:** Oh. It was painful, and I’ll tell you why. We ended up with No Child Left Behind, and I had people who laughed at me because of my response. Somebody asked me how I felt about No Child Left Behind, and I said, “Well, there are good parts and bad parts.” The good part I liked was that they disaggregated the data and required reporting on it as a disaggregated format. And that was at least good for marginalized communities. The bad thing was that they focused narrowly on test scores in mathematics and reading, and that wasn’t even beginning to be . . . to get at what it was that we needed to really get at. So trying to work . . . and we were working like at DC . . . with DC public schools and working at state and local levels and trying



to get systems to be attentive to these kinds of things and the need to look at science and look at engineering and look at technology and they were just . . . math and reading, math and reading, math and reading. And math wasn't even math, it was like arithmetic, but in any case. So, it felt like an uphill battle. I mean, it really did. It all came to an interesting head—all right?—where I met your boss. But I served on the Commission on Federal Election Reform with Secretary [James Addison] Baker and President Carter, and I was a problem there too. So I went on as an independent because even though I was a registered Democrat in Maryland, it wasn't about party. It was like if you didn't go to a Democratic primary, you had hardly any say about anybody because Maryland was so Democratic. The exception was that when I first moved to Maryland and Charles Mac Matthias, Republican. Great guy. And we would all hold our breath that he would get through the Republican primary, so we could go and vote for him. But I went on as an independent and I . . . you know, and I tried to reflect that. I figured I wouldn't have much say within the group because the group had people who were like big D Democrats and big R Republicans who were like major league people. We're talking major, major league, not just Jim and President Carter, but like Tom [Thomas] Daschle and Susan <T: 115 min> Molinari and Lee Hamilton. I mean, we could go on like that. Bob [Robert H.] Michel.

But the issue that emerged, a major issue that emerged early on was voting technology. And I . . . that was something I actually knew something about. We had been working on this at AAAS, looking at electronic voting technology. So I ended up having a lot more input than probably I would have under normal circumstances. So we ended up with a report that we went . . . took to the White House, then to the Congress. So I was at the White House with the report and on the Commission and President [George W.] Bush. And so I was at the end of the meet-and-greet line, and “Very nice to meet you, Mr. President, etc.” And he was getting ready to walk away, and he turned back to me and said, “Don't you believe minority parents need options with their children's schooling?” The voucher question. And I said, “Mr. President, I believe we must work to make all schools, schools of choice.” He looked at me like I had lost my mind because remember now I'm nobody; I'm just this woman who is there in the room, and all of a sudden, I pushed back. And he looked at me and he walked away, stunned, I think. I think he went someplace and found out who the crazy woman was; I had been standing at a cluster that included your president, [David W.] Leebron, and I . . . and the president came back over and said to me, “What do you do at the Association?” And I said, “I work to improve the quality and increase access to education and careers in science, engineering, mathematics, medicine.”

And he said, “Is that a problem?” And I said, “Yes, Mr. President, it is because we have too much of a dependence on foreign sources of talent, not enough development of domestic sources of talent.” And he looked at your president and said, “Is that true, Leebron?” And he said, “Mr. President, were it not for international students, some of our engineering programs would close down.” I'll admit it; this was kind of news. There is a point to this story, and I'm getting to it. So, we had this, you know, and then he asked me another question. And then at some point he said that he was interested in K-12, and I said, “So am I, Mr. President. We work here in the DC Public Schools to try to improve the quality of teaching.” Because that was a major part of No Child Left Behind—teacher quality. And I . . . you know, I started talking about some of the things that we did. He asked; I told him. And I said something about . . . and

he said something like well. I was talking about science. And he said, “Well, they have to learn to read and write first.” And I said, “Not necessarily, Mr. President. The research says that a quality . . . high-quality hands-on science program supports learning to read and write.” And that’s when he asked me what did I mean by hands-on. I said, “You know, actually doing the science and then you do the science and then you write about science and that supports the reading and writing.”

And he didn’t exactly understand, and they finally figured out that it was a kind of thing that Mr. Wizard [Don Herbert] did and that he had watched Mr. Wizard as kid growing up. But I’m here in a conversation with the President of the United States saying, “Mr. President, science has a role and that it is its own thing, but it also supports the things that you care about.” And it <T: 120 min> became quite clear to me that in the policy context, he wanted . . . he was concerned about kids learning to read and write, he was concerned about their mathematics but somehow he got that into his mind that the way to accomplish that was direct instruction in those fields as opposed to anything else that you might offer. And that was the frustration that I felt. And I said to somebody . . . you know, I recounted the story to somebody, and I said, “He means well. It’s just that the people who are around him are handing him a prescription and for a headache when in fact he has a stomachache.” And I . . . and this was frustrating. Okay. Enough telling tales out of school.

**EVANS:** The tales are why we are here. So thank you for that for that tale. And then so with . . . did you then see, kind of, things change like in terms of your . . . was that a start of a relationship with President Bush for you or did you continue then to, or was that . . . ?

**MALCOM:** No, I mean, the thing is that I’m not exactly the kind of person who would get invited to the White House, especially when I pushed back on everything he said. The major point is that what that said to me was that this is not a kind of a malicious ignoring of things. This is a case of where there really is concern about kids, about all kids learning, about asking for accountability, but that accountability . . . it was a misplaced policy strategy—that in essence that testing was . . . it had a different role than assessment that a teacher might do in a classroom so that they can help students get better. I mean, I was involved with the whole post-Charlottesville thing with the [National Education] Goals Panel and what have you. And I understand the role of accountability and understand the role of testing within accountability. But you . . . but I also understand that . . . Lauren [B.] Resnick once said to me—and it is so true—we tend to value what we can measure rather than measure what we value. And we were not measuring what we valued. And so in that way, the kind of accountability thing had kind of perverse impacts. So you asked me if I was frustrated, yes.

**EVANS:** Yeah. So at that time did AAAS and your program there, did they have interaction with PCAST, was that . . . did education, was that something that . . . was PCAST one of your partners then that you were kind of expanding your network to make . . .

**MALCOM:** The PCAST, I'm trying to think now. The Bush PCAST, the science advisor was [John H.] Marburger [III], and it wasn't clear that Marburger had the same kind of access that Neal or even Jack had had with President Clinton. And so, how you made change, it wasn't necessarily through an OSTP process or I know that NSTC [National Science and Technology Council] tried to do some things but what can I say? I only have 10 percent of juice left on my iPad so we could come to a natural stop if for no other reason, I'm going to run out of juice.

**EVANS:** That's okay. I can . . . I have another question or two, but I can also . . . if Kirstin . . .

**MALCOM:** Just ask them. I just won't be as wordy.

**EVANS:** Oh, sure. No, we really appreciate you being wordy and sharing all your stories. That's why we're doing the interview. So in terms of <T: 125 min> you mentioned Dr. Gates's education reports, did you see after the G. W. Bush administration, kind of, a shift in policy and then what was your role and AAAS's role in that discussion?

**MALCOM:** Well, our role continued to be that of trying to shed light, trying to offer perspectives, offer light on what was going on and what was not going on, and that's the way we pursued them—that's the way we saw our role. So the question is that, you know, and in all likelihood, I think I probably ended up having more conversations with the Congress than I did with the President. It was . . . you know, I continued to swim upstream. You know, it was without a salmon ladder. And so, but we continue to work on the problem, you know, so that that the notion . . . continue to make the problem visible, continue to do the research, so that you can understand where interventions might lie and to wait until you got to a time when you had somebody who wanted to hear the answers. So when the Obama administration came along and there were all these people I knew who were on PCAST and when they started turning out education reports that were consistent with what we looked at [and] what we thought etc., etc., it was like hosanna. But getting to that next place was going to require thinking through what the strategies needed to be because it was becoming clear, more and more clear all the time, that one-off strategies weren't doing it. And we had to go structural, which is where we ended up.

**EVANS:** Yeah, and so that program started in 2017, that was kind of this is . . . ?

**MALCOM:** It's based on Athena SWAN [Scientific Women's Academic Network] in the UK, and they had been going for thirteen years at that time; they started a long time ago. We learned from them, and we have adapted because their programs will largely focused on gender equality, but we wanted ours to look at not only gender, but also race/ethnic [issues] because we knew that our problems were in both spheres. And if you would ever address issues related to

women of color, you got to do both of them—had to. And what’s your last question before I turn into a pumpkin?

**EVANS:** Kirstin, if you have a final question or something you wanted to follow up on . . .

**MATTHEWS:** No, I’m just listening. This has been great. I really appreciate all the feedback and all the information you’ve given to us.

**MALCOM:** And all these strange stories, right?

**MATTHEWS:** Maybe more Neal stories that we could use to embarrass him later, so we should do that offline maybe. I know you have some.

**MALCOM:** Oh, I have lots of Neal stories, honey. You have no idea.

**MATTHEWS:** No, I don’t have any . . .

**MALCOM:** Yeah, we weathered the storm together, okay?

**MATTHEWS:** Did you have a final one, Kenny, or . . . ?

**EVANS:** No, that’s . . . if you have a favorite Neal anecdote, that might be a good note to end on.

**MALCOM:** You don’t have to pay for that one.

**EVANS:** Well, yeah, I want to reiterate Kirstin. Thank you so much for . . . I mean, this has been incredibly valuable for our project and . . .

**MATTHEWS:** [inaudible] Really valuable. Part of the project was is to get all these stories, and I didn’t anticipate how rich your story and history was. My daughter was listening to the last session of it as well, and I think we both learned a lot from it. So thank you so much for participating and . . .

**MALCOM:** Yeah, yeah. It's been interesting. It's been interesting to be recalling all of this. I mean, that was an important part of my life. I mean, I . . . a little kid in Birmingham, you know, never understood that I would, kind of, be roaming around at those lofty things that but I will assure you that I never forgot that I was a little kid from Birmingham. And that, you know, it was that little kid who kind of showed up and asked all of the <T: 130 min> nasty questions.

**EVANS:** We will be in contact about transcripts.

**MATTHEWS:** It may take us a little while to transcribe it . . .

**MALCOM:** I know, I know. I couldn't handle now if they came within the next three weeks in any case.

**MATTHEWS:** But yes, we'll have follow up with more texts for you. And if you want and decide there's a whole section of your life history that you want to talk about, we can just even add more.

**MALCOM:** Yeah, that's fine.

**MALCOM:** Okay. All right.

**MATTHEWS:** Thank you very much.

**EVANS:** Thank you, Dr. Malcom.

**MALCOM:** Bye. [ . . . ]

[END OF AUDIO, FILE 2.1]

[END OF INTERVIEW]

## PUBLICATION LIST

Graves, J.L., M. Kearney, G. Barabino and S. Malcom, "Inequality in science and the case for a new agenda," *PNAS* (24 Feb 2022): Volume 119/No. 10.

Shirley M. Malcom, "Reimagining Colleges and Universities to Make Them More Equitable," *Scientific American*, 24 July 2020.

Shirley M. Malcom, "400 years and (re)counting," *Science* (20 Sep 2019): Volume 365, Issue 6459, pp. 1221.

Written testimony of Shirley M. Malcom before the House Committee on Science, Space and Technology hearing, Achieving the Promise of a Diverse Workforce, May 9, 2019.  
<https://science.house.gov/imo/media/doc/Dr.%20Malcom%20Testimony.pdf>.

National Academies of Sciences, Engineering and Medicine (2016). *Barriers and Opportunities for 2-Year and 4-Year STEM Degrees: Systemic Change to Support Students' Diverse Pathways*, Committee on Barriers and Opportunities in Completing 2-Year and 4-Year STEM Degrees. Board on Science Education and Board on Higher Education and the Workforce. Washington, DC: The National Academies Press. (Shirley Malcom and Michael Feder, Editors)

Lindsey E. Malcom-Piqueux and Shirley M. Malcom, "African American Women and Men into Engineering: Are Some Pathways Smoother Than Others," in *Changing the Face of Engineering: The African American Experience*. Edited by John Brooks Slaughter, Yu Tao and Willie Pearson, Jr., 2015, Baltimore, MD: Johns Hopkins University Press.

Shirley M. Malcom and Lindsey E. Malcom-Piqueux, "Critical Mass Revisited: Learning Lessons from Research on Diversity in STEM Fields," *Educational Researcher*, Vol. 42 No. 3, April 2013, pp. 176-178.

Shirley M. Malcom, "Science and Diversity: A Compelling National Interest," *Science* 29 March 1996: Volume 271, Issue 5257, pp. 1817-1819.

Shirley Mahaley Malcom, Paula Quick Hall and Janet Welsh Brown, *The Double Bind: The Price of Being a Minority Woman in Science*, American Association for the Advancement of Science, 1976. ("The Double Bind: The Next Generation" was written by Lindsey E. Malcom and Shirley M. Malcom thirty-five years after the publication of *The Double Bind* and published in 2011 as a foreword to the *Harvard Educational Review* Symposium, "Unraveling the Double Bind: Women of Color in STEM.")