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Standing on Strong Shoulders

by

Dr. Shirley Ann Jackson, Chairman  
U.S. Nuclear Regulatory Commission

NRC Black History Month 1999 Celebration  
TWFN Auditorium, February 2, 1999, 9:30 a.m.

Good morning to all of you—Commissioner Dicus, Commissioner Diaz, Commissioner McGaffigan, Commissioner Merrifield, Dr. Travers, Mrs. Norry, Mrs. Little, Ms. Williams, and all employees.

The national theme for Black History Month this year is entitled, “The Legacy of African-American Leadership for the Present and the Future.” This theme implies a journey through time, a journey that has built this legacy of leadership gradually, over centuries, generation by generation, career by career, struggle by struggle, with each individual standing on the shoulders of those who have gone before. Those of us who have achieved some measure of success never reflect on that success without some measure of gratitude for the builders of this “legacy of leadership.”

On a personal note, I am reminded that this is the last Black History Month that I will share with you as the NRC Chairman—and a member of my staff recently pointed out to me that, since I have spoken on multiple occasions about my own experiences and perspectives as an African-American leader to academic or industry groups, I should share some of those experiences directly with members of the NRC staff. Today, by drawing on what I have discussed in fora external to NRC, I would like to relate a few such events from my childhood and young adult years that helped to shape my current perspectives as an African-American woman.

Brown v. Board of Education: Many careers are rooted in the formative experiences of childhood. I was born, as most of you know, in Washington, D.C., and I entered public school there just three years before the epochal Supreme Court decision in Brown v. Board of Education. It would be hard to overstate the impact of that decision on the generation of African-Americans who were of school age then. We all were growing up with segregation as a fact of life. None of us needed a court to tell us that it was morally wrong; we already knew that. But the Brown decision was the official declaration that segregation was also legally wrong: indeed, that it was contrary to the Constitution.

The practical effects of Brown, in changing the make-up of various public schools I myself attended, were interesting. Initially, those schools were integrated by law, but later became *de facto* re-segregated, as the racial composition of school-age children in Washington, DC became increasingly African-American. The moral and psychological effects, however, were enormous. If discrimination was wrong in the schools, then logically it could not be right in any other aspect of American life. Even as children, we could sense that great changes were in the making; that the door of opportunity would be open a little wider for us than it had been for earlier generations; and that accordingly, we had all the more reason to "aim for the stars," which always had been the advice I received from my father.

Sputnik: A second event during that period also helped to shape my school career. In 1957, the U.S. was shaken by the news that the Soviet Union had beaten us into space by putting the first earth satellite into orbit. At the time, Sputnik seemed to suggest that the Soviets had surged ahead in science and technology, and that the American educational system was to blame. The result was that money poured into the schools to improve the quality of education in math and the sciences, and students were encouraged to pursue careers in these areas.

Heroes and Role Models: Another formative experience was what kind of heroes and role models I had. As you might imagine, it was not easy for a young African-American girl with a budding interest in science to develop role models to emulate—but such individuals did exist, and their presence—even in library books—played an important role in legitimizing and shaping the direction of my interests. One such role model, who became a personal favorite, was Benjamin Banneker, a free African-American in 18th Century America who excelled in mathematics, studied astronomy, wrote almanacs, and assisted in surveying the land, planning the layout of streets, and selecting building sites for the District of Columbia. As a child, I found Banneker fascinating because, like me, he had an intense curiosity, he liked math and science, and he had helped to design my home town of Washington, DC. To put it in physics terms, Benjamin Banneker helped to expand my universe by serving as an unusual model of success. [I should say, for the record, that, at that time, I did not focus on the fact that Banneker also was the first African-American to receive a presidential appointment, when George Washington appointed him to a three-man team of surveyors to design the District of Columbia.]

Another (later) role model was Dr. Ernest Everett Just, the son of a builder of wharves and a teacher. Dr. Just graduated from Dartmouth in 1907 at the top of his class with a degree in zoology, and later became the head of the Department of Zoology at Howard University. Dr. Just performed seminal work in cell biology at the Woods Hole Oceanographic Institution in Massachusetts, working there only in the summers because he could not obtain a full-time position, but nonetheless managing to publish over 70 scientific papers.

Quality of Instruction: As a final factor in my early education, I should point out that public school instruction during that era was extremely demanding. Our teachers felt they had to be demanding. They had experienced both discrimination and the Great Depression, and they were determined that their students would acquire the knowledge and skills to enable us to compete successfully in the job market, even in economic hard times. Our teachers believed that if we were going to succeed in life, we would have to be not only as good as the next person, but better. Therefore, they demanded excellence—nothing less—and they tolerated no excuses for second-rate performance.

That, then, was my early schooling: rigorous, achievement-oriented teaching, in the era of opportunity opened by the Brown decision, with the special impetus given to scientific education by Sputnik.

Entering MIT: For some of us, it was a very fortunate combination. In my case, I graduated from Roosevelt High School in Washington, DC, and entered MIT as a freshman in the fall of 1964. The MIT freshman class of 900 that year included just two African-American women, and three African-American males, the largest number of African-Americans ever to enter M.I.T. at one time. Parenthetically, three of us graduated four years later.

My early years as an undergraduate at MIT—from 1964 to 1968—were tumultuous ones, sometimes triumphant and all too often tragic. As you all are aware, the Reverend Dr. Martin Luther King, Jr. was assassinated in the Spring of 1968. The murder of Robert F. Kennedy took place the week I graduated. In those years, as minority students pursuing careers in the sciences, engineering, and mathematics, my four classmates and I were acutely conscious of just how small our numbers were. It takes a certain “critical mass,” so to speak, for members of a group to feel that they form a community that can be supportive of one another, and in the early years, it was easy to feel isolated at times. My enrollment at MIT came before Dr. King had succeeded in influencing the government to establish a legal basis for equal employment opportunity. Indeed, the landmark Civil Rights Acts had just been past into law in 1964. Neither the general public nor the well-educated elite had accepted fully the idea of minority women in a university like MIT—nor, for that matter, in the workplace. Moreover, universities of that era were still in the process of learning that, to be effective in reaching out to minority populations, their obligations did not end when the acceptance letters went into the mail.

As still occurs, significant obstacles sometimes were present for those of us who were choosing career fields that were non-traditional for individuals of a particular gender or ethnic background. Sometimes those barriers could take the form of confrontational reminders of demeaning stereotypes. I will share one personal experience, which I have shared elsewhere: in 1965, as a freshman still deliberating on what my major would be, I was approached by an MIT professor who had a piece of career advice. “Colored girls,” he told me, “should learn a trade.”

Consider, if you will, that I was one of two African-American women in that MIT freshmen class of 900. Consider also that I was newly separated from the support system of my family and my community back in Washington, DC. Still, there was another, positive side to that separation. I had gone off to college supported by three scholarships, including a modest scholarship from the Vermont Avenue Baptist Church in Washington, D.C. I knew that the men, women, and children of that church had invested themselves in my success, in part because they knew me and wanted me to succeed. They also saw me as a standard-bearer for the community, an individual who might help to lower barriers for other African-Americans coming after me. I knew, therefore, that I had the support of my community, and that I was, in some ways, a representative of those individuals, people whom I did not wish to disappoint.

“Colored girls should learn a trade.” Tell me then—how does a young woman, eager for success, but also desirous of support and respect, respond to so denigrating a suggestion, to so clear a depiction of the limitations associated with racial and gender stereotypes? I will tell you. I chose a “trade.” I chose physics! Four years later, my friend, Dr. Jennifer Rudd, and I became the first African-American women to graduate from MIT. She went on to become a physician. I remained at MIT as a graduate student, and received my Ph.D. in theoretical

elementary particle physics in 1973. As many of you know, that made me the first African-American woman to receive a doctorate from that institution—but more significantly, it was another barrier broken—a crack in the darkened glass ceiling that separates individuals from knowledge, and their hopes and dreams—another step in building the legacy that is our topic today.

What relevance do my personal experiences have for us here today? Without, I hope, appearing self-indulgent, I will tell you: it says to me that not one of us breaks through the racial or gender barriers alone. I did not. I had strong family support, strong community support, historical heroes, and a clear sense of the sacrifices that the Rev. Dr. King and others had made and were continuing to make as I went off to college and continued my education. One needs role models and heroes to remain motivated—if not in the flesh, then from an historical perspective. No matter what your personal struggle, your obstacles, your distractions, someone else has struggled before you, has achieved before you (as Benjamin Banneker and Ernest Everett Just did before me)—and in that sense, they struggle together with you. There is a continuum—we are standing upon the shoulders of those who have gone before us. Therefore, a sense of history, a sense of identification with a centuries-old uphill battle, can itself become a weapon to ward off discouragement, to counteract the temptation to settle for mediocrity.

In keeping with that perspective, I am pleased to introduce the Pin Points Theatre Group, who will now present *The Meeting*, written by Jeff Stetson. This play depicts a meeting between two prominent leaders in the African-American legacy—the Rev. Dr. Martin Luther King, Jr. and Malcolm X. *The Meeting* has been performed all over the U.S. and in Europe. Performing today will be actors Jim Lucas as Dr. King, Ersky Freeman as Malcolm X, and Mark Anderson as the bodyguard. I now present to you *The Meeting*.