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Sources of Inspiration: Scholars, Mothers, Sisters, and Daughters

by

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Black Women In the Academy II
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Good morning! I am pleased and honored to be standing among you this morning, to be a part of the continuation of this much-needed conference on "Black Women in the Academy." Moreover, I am inspired–in fact, I wish that all of you could be standing up here with me, at the podium, because I believe you would find it impossible to have this view, to look across this sea of faces, in the context of this conference, and to be filled with anything but inspiration. As you know, I am a physicist by trade, and not a preacher, so I will do my best not to preach to you today. However, I do want to speak to you about inspiration, because in my view, service and leadership–the themes of this conference–must be kindled, fueled, and sustained by inspiration. I have entitled my presentation, "Sources of Inspiration: Scholars, Mothers, Sisters, and Daughters."

Today I have the rare privilege of standing at the brink of a new century, a new millennium, speaking as a Black woman, to Black women, about the history and progress of Black women. I do not have to tell you that this has not been "our century," or "our millennium." But history, however painful it may be, is also a gifted teacher–and history, in this case, teaches us (1) that success and achievement come in many forms, (2) that each of us stands on the strong shoulders of those who have gone before us, and (3) that the evolution of the American Black woman, while slow, is also inevitable. I would like to begin by reviewing several "snapshots" from the history of Black women. I then will discuss how, in my view, we can derive inspiration from this history. I will conclude by outlining several ways in which we can put this inspiration to good use, clearing the way for others to follow.

Snapshots of History

The first snapshot I would like to call to your attention is of a woman with no name. More correctly, she has no recorded name, in our record of history–but, in fact, she had many names–a hundred thousand names–because the year we are looking at is 1850, and the woman we are looking at is an American slave–my ancestor, your ancestor, five generations

removed. We often may not think of her as a real person, our great-great-great-grandmother, but she was as real as you and I, a woman who wept real tears and bled real blood–and who had a real daughter. I ask you today, what were her sources of inspiration? How did she manage to "keep hope alive?" If she was like most of her peers, she likely had little or no formal schooling, and her primary "scholarship" was an inner wisdom, passed down by oral tradition from parent to child. When she watched her daughter growing up, her concern was not "How will she perform on her SAT?" or "How will I pay for college tuition?" but rather, "How many more years, how many more months will I have together with my child, before she is sold away from me into an uncertain future?"

Yet, without question, despite our scant records about Black women of her era, they remain a fundamental source of inspiration to us all. Their achievements were achievements of suffering and endurance, because suffering and endurance, in many cases, were all they had. Their fields of study were a reflection of the meager opportunities available to them–practical disciplines such as planting and harvesting crops, caring for the sick, managing households, or finding more efficient methods of food preservation. While any attempt to research the history of African-American women of this period is fraught with frustration, the records that we do have, in sources like the Special Collections Library at Duke University, consistently depict women of dignity, women of intelligence and faith, women possessed of vast resilience. That is a heritage of which we justly can be proud, an inheritance of enduring value and inspiration.

The second snapshot I would mention briefly is the Black woman as freedom fighter–a woman such as Sojourner Truth or Harriet Tubman–or, in a time closer to our own, Rosa Parks. These women are far from anonymous. In fact, they have become icons, larger-than-life symbols of outspoken resistance to oppression, their specific actions viewed as pivotal milestones in the time-line of the civil rights movement. As leaders thrust into the spotlight, they returned direct and obvious contributions to the Black community, and justly are honored for their service.

The third snapshot also is of Black women who were trailblazers, but in a slightly different sense–in this case, women who achieved early success in a particular field. These women are the precedent-setters, the motivated individuals who found a way to transcend stereotypes, to go beyond the supposed limitations of the minority universe, to make cracks in what I have called "the darkened glass ceiling"–the intangible barrier, within a hierarchical system, that prevents women or minorities from rising beyond a certain level of achievement and recognition.

In the scientific and technological arena, African-American women began to achieve recognition in the 1930s and 1940s. Early trailblazers included Ruth E. Moore, the first African-American woman to earn a doctorate in bacteriology (from Ohio State University in 1933), and subsequently to serve as the Head of the Department of Bacteriology at Howard University Medical College, from 1947 to 1958; Flemmie Kittrell, who received her doctorate in nutrition (at Cornell in 1935), and went on to serve as a consultant to the U.S. State Department in conducting a nutritional study of Liberia and five other African nations in 1947-48; Jessie Jarue Mark, who received her doctorate in botany from Iowa State University in 1935; Roger Arliner Young, who earned her doctorate in zoology at the University of Pennsylvania in 1940 only after years of conducting and publishing significant research in marine biology, working with her mentor, Dr. Ernest Everett Just; Marguerite Thomas Williams, who received her doctorate in geology from Catholic University in 1942, and who went on to a distinguished career as professor and Chairman of the Division of Geography at Miner Teachers College; and Marie Maynard Daly, who earned her doctorate in chemistry from Columbia in 1948, and

subsequently served as a research assistant at the Rockefeller Institute, an Associate Professor of Biochemistry and Medicine at the Albert Einstein College of Medicine at Yeshiva University, and a cancer scientist for the Health Research Council of New York. The accomplishments of these African-American women, and others who followed them, paralleled a growing awareness in the United States of the importance of scientific inquiry–in part a response to the unprecedented demand, brought about by World War II, for human resources trained in science and technology.

In retrospect, the achievements of these women are a profound source of inspiration–particularly to other women who seek to follow their example–and yet it is worth contemplating that, even as trailblazers, each of these women benefitted from the hard work, insight, and endurance of those who had gone before. Consider the remarks of Evelyn Boyd Granville, who in 1949, at Yale University, became one of the first two African-American women to earn a doctorate in mathematics–and went on to work as a mathematician at the National Bureau of Standards, as a consultant in numerical analysis at IBM, and as a professor at California State University. "Fortunately for me as I was growing up, I never heard the theory that females aren't equipped mentally to succeed in mathematics, and my generation did not hear terms such as 'permanent underclass,' 'disadvantaged,' and 'underprivileged.' Our parents and teachers preached over and over again that education is the vehicle to a productive life, and through diligent study and application we could succeed at whatever we attempted to do."

The fourth and final snapshot I would like you to consider is that of the woman seated beside you. Like the first woman we considered, you may or may not know her name–but her aspirations, her dreams, and her drive to succeed are real nonetheless. And, like the African-American women of the last century, this woman is a part of our history. Her success, in some small measure, will influence your own.

Deriving Inspiration

What can we learn from these snapshots in the history of the Black woman in this country–some in scholarly endeavors? Have we made progress? Yes, without question. Is the job done? I say, just as emphatically, without question, no. As mothers today, many of us still look at our children and worry about whether they will face substandard opportunities because of their race or gender. The latest statistics continue to show Black women as being significantly under-represented in the receipt of advanced degrees in many fields. For example, according to the 1997 Digest of Education Statistics, published by the U.S. Department of Education, Black women earn less than half of one percent of the advanced degrees awarded in engineering and the physical sciences–and, correspondingly, only comprise about one percent of the natural science and engineering faculty (either full-time or part-time) at institutions of higher education. Notably, that faculty percentage is somewhat higher, ranging from three to four percent, in the health and social sciences.

Despite these statistics, we clearly are making progress. Within the context of service and leadership, the brief snapshots of history I have just reviewed provide us with several key insights into how we have managed to "lift ourselves up by our own bootstraps," as the saying goes. So I will address the following question. What methods have Black women used to inspire one another to greatness, to achieve success on an uneven playing field? I will answer it by considering four crucial roles played by Black women in the academy–the roles of scholar, mother, sister, and daughter.

The first role–that of the scholar–inspires by example, and by the contribution that is returned to the Black community. The inspirational role of the mother, in this context, refers both to the traditions of resilience and wisdom passed down through generations, and to the nurturing and mentoring role that successful Black women serve for those following in their wake. Sisterhood, in turn, allows us to inspire one another through small circles of support and identification, communication networks that foster a sense of belonging within the community. And daughters, finally, serve as a source of inspiration because they are our future, our anticipation of continued progress, embodying our hope of a society in which even the more subtle forms of discrimination finally are eradicated.

What should be obvious, by the foregoing description, is that these roles flow into each other, and that each of us can serve in some form as an inspiration to others in the community of Black women. Regardless of our degree of anonymity or recognition, regardless of our age or the generation with which we identify, each of us has a role to play in the overall evolution of Black women, in adding to the force with which Black women continue to break down barriers and shatter stereotypes.

I will share briefly from my personal experience. In the spring of 1964 I graduated from Roosevelt High School here in Washington, DC, and that fall I entered the Massachusetts Institute of Technology. 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 MIT at one time, up until that year. Those years as an undergraduate at MIT–from 1964 to 1968–were tumultuous times, sometimes triumphant and all too often tragic. As you know, 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 Black students pursuing careers in the sciences, engineering, and mathematics, my four classmates and I were acutely conscious of just how small our numbers were. The landmark Civil Rights Act had just been passed 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.

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. In 1965, as a freshman still deliberating on my choice of major, I was approached by an MIT professor with a piece of career advice. “Colored girls,” he said, “should learn a trade.”

Consider, if you will, the size of my on-campus “support group.” Consider also that I was newly separated from the support of my family and my home community. 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, DC. 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.

“Colored girls should learn a trade.” Tell me–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 and classmate, 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.

What relevance do my personal experiences have for us here today? These experiences illustrate that none of us breaks through racial or gender barriers alone. As a student with dreams of my own, I had received inspiration from the examples of other men and women who, much earlier, had shown their own defiance of limiting stereotypes. I was inspired further by the support of my community, by the nurturing and encouragement of my parents. In turn, my success was to become a reciprocal source of inspiration, a symbol of what the community could achieve through mutual support.

Putting Our Inspiration to Good Use

Finally, I would like to discuss one particular area in which I believe we must continue to make progress, an area in which we can put our energies and our inspiration to good use. Earlier in my presentation, I hinted at the idea that the contributions of some “trailblazers” to the Black community were more direct than others. Traditionally, we have reserved our strongest praise for those women who have devoted their lives to correcting issues central to racial and gender injustice, such as suffrage, economic inequities, academic desegregation, and legal under-representation. As a corollary, for aspiring young Black women, the pressure has been strong, in some cases, to choose a career field that can be of direct and apparent benefit to the Black community–careers such as law, medicine, religion, or education.

In no way do I wish to denigrate the value of these choices, or to detract from the obvious benefit that the practitioners of these vocations make to their communities. On the other hand, I think it is important that we broaden our horizons. Black women continue to be under-represented severely in scientific and engineering disciplines, and continued perceptions of pressure to choose fields only of “direct” contribution can serve to perpetuate that under-representation. By limiting the range of what our young women view as valid “models of success,” we in fact can reinforce external stereotypes regarding fields of low representation–stereotypes that Black women “do not have what it takes” to succeed in those fields.

I believe that the time has come to “expand our universe,” to be aware of our own demographics, to understand and publicize the value of increased participation in science and engineering fields, and to create new “models of success” for young Black women. How does one go about creating these new models of success? By harnessing all of the sources of inspiration I just mentioned. Leaders who have achieved a measure of success and recognition must set an inspirational example of vision, hard work, and ethical integrity, and must be willing to cultivate and serve as mentors to others. Those nurturing activities should build small communication networks which, in turn, can give birth to larger foundations, support programs, and meetings such as ours today–vehicles in which successes are publicized, limiting stereotypes are eroded (and eventually eradicated), and both young people and the larger community are educated.

Meetings such as this one illustrate that we are closer to achieving this objective–the conscious and methodical elimination of our career limitations–than we ever have been. Many studies, discussions, and actions are receiving formal organizational support and assistance to

encourage more women and individuals of minority background to participate directly in science-based careers. In addition, I believe that a large percentage of business and governmental organizations increasingly are acknowledging that, if they are to compete successfully in a global political and economic environment, they must make use of all the best human resources available.

As a veteran of the private industrial sector, of the academic community, and of the Federal government, I often have made the point that this country does not have people to waste. The present and foreseeable challenges facing our nation are too great for society to ignore or to undervalue the capabilities of entire population segments. The added richness of perspective that results when we embrace diversity is no illusion. If the needs of Black women are to be incorporated into the drive for scientific and technological advancement, then we need Black female scientists and engineers who bring an awareness of those needs to the academic, industrial, and governmental arenas. If we seek economic parity and equivalence in employment opportunities, it follows logically that we also should encourage our daughters to pursue their dreams across the full spectrum of vocations. They must feel that no field is foreclosed to them, no darkened glass ceiling left intact.

Conclusion

In closing, I would like to express once more my personal appreciation to Howard University and the various committees for organizing this conference, and for focusing on strategies that will challenge young Black women to pursue careers as leaders across all academic disciplines.

The history of African-American women, as we have lived it over the past several centuries and as we have reviewed it today, is in fact an evolution of achievement. I have spoken of our achievements of suffering and achievements of endurance. But we have progressed from suffering to suffrage, to achievements of law, religion, medicine, and education. We have become known for our achievements in the arts–music, dance, drama, and the visual and literary arts–and for our achievements in sports and athletics. With every one of these achievements, we have reduced our limitations, we have expanded the universe of what it means to be a woman of color.

In a few days, as I complete my tenure as Chairman of the U.S. Nuclear Regulatory Commission and head back to academia as the President of Rensselaer Polytechnic Institute, I would ask all of you to join with me–and I will join with you–in pushing the boundaries back still further–in motivating, developing, and mentoring more young Black women as scientists and engineers. And in the broader sense, we each are challenged to take up our roles as "sources of inspiration." As scholars, we must inspire by example. As mothers, we must inspire by cultivating the next generation of achievers. As sisters, we must continue to build our networks and organizations of inspirational support.

And to the "daughters" in the crowd, the young women just entering the academy–remember the inspiration that we seek from you. Our inspiration lies in your continued achievement. We salute you, we challenge you to succeed, even where the playing field remains uneven–just as Black women have been doing for generations–making our own way where a way for us does not exist.

Thank you for your attention.