The Need for A New Normal

E. K. Ellington Scott

Figure 1. *Author E. K. Ellington Scott playing the drum set, 2020. Photo courtesy of Lori Wilson.*

During my first day of middle school, each student was asked to explain his or her professional goals. I was confident and eager to share my aspirations. When I proudly articulated my desire to become a research engineer, my teacher erupted into laughter. I stood there paralyzed, yet painfully aware that this teacher who had only known me for a few seconds had already assessed me as a student with limited capabilities. This is a common story for Black male students in Science, Technology, Engineering, and Mathematics (STEM).

My name is E. K. Ellington Scott. I am presently the Acoustical Society of America (ASA) James West Fellow (see bit.ly/3aEB8Yq), studying in the architectural acoustics doctoral program at Rensselaer Polytechnic Institute in Troy, NY (**Figure 1**). I hold an MS in architectural acoustics from Rensselaer as well as a double degree in physics and jazz performance from Oberlin College and Conservatory in Oberlin, OH. My current research focuses on the sound-quality assessment of jazz venues and the effects of spatial acoustic energy distribution on stage intercommunication between musicians. Improvisation plays an important role in jazz; the spontaneous composition requires a heightened sense of listening and communication from all musicians within the ensemble; analyzing the acoustic energy distribution is crucial in understanding the stage design of jazz venues.

Southern Roots

Growing up in the southern United States, attending not one but two schools named after Confederate sympathizers, gave me a keen awareness of systematic racism and prompted me to challenge every skewed misperception about my academic ability. I knew from an early age that I had an interest in music and STEM. Naturally, being named after the late great Edward Kennedy "Duke" Ellington, I was continuously immersed in music. However, finding my way to STEM was not as direct. My passion began to blossom after attending a lecture where the key speaker was Mae Jemison (see go.nasa.gov/3l1EM3F). She was the first Black woman in space as well as a medical doctor, an engineer, and a choreographer.

My parents intentionally exposed me to black scientists and engineers. Alice Ball, Edward Bouchet, and James West (see oumnh.ox.ac.uk/alice-ball; bit.ly/31c4xWR; bit.ly/3gdw5Q6, respectively) are but a few of many with whom I became acquainted. My parents realized that the traditional curriculum in the American educational system would leave out historical figures from the African Diaspora. They used every opportunity to expose me to paragons of academic excellence who resembled me. Many underrepresented students are left with very few visible role models in the world of STEM. Of course, I was also exposed to classical role models; Leonardo da Vinci holds a special place in my heart for his extraordinary abilities for interdisciplinary study and the melding of his passions.

Nevertheless, having a role model who looks like oneself is invaluable. It encourages and strengthens the student's interest in a particular subject, reinforcing the native conviction that their aspirations are within reach. In my academic career, I have yet to have a Black teacher in any

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of my STEM classes. In retrospect, seeing such a lack of diversity with teachers and departments has certainly shaped my decision to pursue an advanced degree. Although this is not my sole motivation, seeing diversity within a community brings a sense of comfort, curiosity, and openness to asking questions. It also informs a student that there could be allies within this shared space.

Undergraduate Experience

Attending Oberlin College and Conservatory forced me to understand the importance of fellowship within my community. During my first year, I lived in the Afrikan Heritage House, a residence hall steeped in Africana culture and a safe space for the Black community on campus. It served as a place for me to mature socially and culturally with like-minded scholars studying all cornerstones of the liberal arts. This counterspace served as one of a few places that provided me with a sense of belonging on campus.

As a STEM major, I was the only Black man in the physics department. Although the students and professors in the department were civil, I never truly felt a part of the community. Interactions were always accompanied by an unsettling awkwardness that I could not explain. Classmates in similar situations described this feeling as their impetus for changing to a non-STEM major. A friend even shared that during her initial advisory meeting, she was discouraged to pursue her career aspirations as an engineer. Racial stereotypes influenced the advisor to ignore her exceptional academic record and achievements. This type of alienation often prompts students to cautiously approach professors and peers, which may result in an impeded classroom and laboratory experience. I found it was imperative to protect myself and to interact with those who proved to be allies.

I found my interest in acoustics not through the physics department but through the jazz division of the Conservatory. My percussion teacher and I always discussed how I would eventually integrate my two degrees. As an Oberlin alumnus, he understood the significance and complexity of the double-degree program. Conversations led him to connect me with acoustician Paul Scarbrough. This evolved into an internship and, eventually, an acoustic consultant position. My passion for acoustics grew not from a place of research and science but from a place of rhythm and syncopation. After my advisor took notice of my interest, he nurtured my endeavors by offering me a teaching assistant position in the acoustics course and guided me in acquiring a research experience with ASA Fellow James Cottingham.

In 2013, our campus was plagued by an inordinate number of racial incidents; the community was certainly fragmented because many believed that the microaggressions and blatant acts of racial animus were only jokes. I quickly came to realize that affected communities cannot just ignore racial injuries and hope for change; we must galvanize. Needless to say, we protested. We protested, trying to ignite action from the college. During the demonstrations, I saw only one of my white STEM professors at the events concerning many of the horrendous actions that took place on campus. It is important to note that witnessing my mathematics professor protesting the vandalism of the Afrikan Heritage House and the distressing aftermath of many other racial acts bolstered my sense of well-being in his course. Knowing my professor was willing to demonstrate and demand inclusivity on campus made a profound difference in the classroom.

Diversity in the Workplace

After graduating from Oberlin, I started working as an acoustic design consultant at Akustiks, a boutique acoustic firm located in Norwalk, CT, that specializes in the design of performance spaces. I was unsure of my path after college. However, Akustiks graciously opened their doors to allow me to work after I interned there the year before. Diving into this field, I already knew that minority representation would be minimal at best. This simple fact is the prime reason of many Black students' reluctance to pursue any field related to STEM; however, within a few months of starting my position, I traveled extensively, attended design meetings, performed dozens of acoustic measurements, and most importantly, discovered that Akustiks was a safe space.

My most memorable moment was during my first traveling assignment, the commissioning of the Gaillard Center in Charleston, SC. Weeks before, a white supremacist had attacked and killed nine parishioners of the historic Mother Emanuel AME Church (see n.pr/30YyY2B). Because both my parents are AME ministers in the South, I was more attentive to the news and the impending outrage of the Black community.

The performance center we were commissioning happened to be just a few blocks from the church. Walking to the performance center, one could still see the flowers and signs left for the Emanuel Nine, those brutally slain during a bible study. This event became more than a typical tuning concert but more of a catalyst for healing within the city. One of the principals of Akustiks did something I could not have imagined; he asked me to direct the Charleston Symphony Orchestra. Although directing the orchestra was certainly exhilarating, what happened next was far more profound. After the concert, I was walking through the foyer of the venue when a group of Black audience members approached me just to say thank you. They had never seen a Black person in an orchestra, let alone conducting the orchestra.

It was clear to me from the very beginning that my mentors at Akustiks were invested in my development and made every effort to understand and make room for my presence in the workplace. Either by conscious intention or by accident, Akustiks created a safe space for me to cultivate my abilities as an acoustician, enhance critical thinking, and develop my technical communication skills. This is a rarity in this type of environment.

Returning to School

The environment in graduate school has been the complete opposite of my undergraduate experience. Although Rensselaer is a rigorous institution with an emphasis on research and critical thinking, the environment feels hollow because there is such a negligible sense of diversity on campus. In my first year in school, I was the only Black male in any graduate program at the School of Architecture.

I have witnessed a student in my program use racial slurs in conversation, asserting ignorance as an excuse for his inappropriate judgment of word choice. He considered himself a typical student at Rensselaer. If he is saying this with me around, what is he saying when I am not there? Although I was filled with rage, I could not let such a nescient act derail my studies. Author James Baldwin once said, "To be a Negro in this country and to be relatively conscious is to be in a rage almost all the time."[1] Students of color in STEM must find a balance between academics and social consciousness without diminishing their integrity or research.

With a modest population of African American graduate students, it is crucial to have a group to form a safe space; the Black Graduate Student Association on campus is such an organization. Many Black graduate students are asked, "Why is it necessary for you to have your graduate association?" It is not that we are trying to separate ourselves from the rest of the graduate programs, but it is vital to have a space to belong and be ourselves. Our dispersal throughout the campus has made it difficult to interact and socialize. The fact that we face microaggressions multiple times a day means there must be an outlet to express and manage our experiences and our hurt.

A New Normal

As I write this article, two pandemics are roaring throughout the United States. Blacks and LatinX are dying at alarming rates from COVID-19, and bigotry is emboldened by the current administration. I felt it was important to share my experiences as a minority in STEM. From a progressive liberal arts school to an exacting research institution, the story stays the same. STEM departments have not found a remedy for the inequities that persist in academia: the lack of faculty of color, few student majors of color, and insensitive pedagogies. It is often said that there is no pipeline for Black students and faculty in any of these departments and careers. This is my challenge for higher education. Why not be the first? An institution or company with no appreciation for diversity is limited in scope, vision, and mission. To reach a new and better normal, a conscious investment in diversity, inclusion, and equity programming must be implemented.

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1 *Baldwin, J., Capoya, E., Hansberry, L., Hentoff, N., Hughes, L., and Kazin, A. (1961). The Negro in American culture.* Cross Currents *11, 205-224.*