

Courtney Kimbrough

Perspectives Math and Science

February 1, 2016

African American Contributions to Mathematics

Thomas Jefferson the creator of the most famous words “All Men are Created Equal”, was accused of stating in a letter that "I have not yet found one of them Negroes who could solve the geometrical problems of Euclid." Now this may or may not have been said but there is certainly a decorrelation amongst African American culture and Mathematics. Mathematics have been the front runner of education for many decades. For years of studying mathematics we have been introduced to some very important people, who played a huge role in the development of Mathematics. We have all heard of names like Gauss, Pascal, Pythagoras, Euler, Newton and so many more. To the naked eye one would think African Americans played little to no part in the development of mathematics. Over fifty African Americans played very important roles in the development of mathematics. A lot of these Mathematicians were not acknowledged because of their skin color.

During the 1980's it was reported that more than half the works of African American Mathematicians were undocumented and published by other known Mathematicians (American Institutes For Research, 1982; B. F Lewis, 2003). Low success rate for minorities has been widely known for long times, and this has created an epidemic of fewer and fewer minorities entering into the field of Mathematics. According to The National Science Foundation, only twelve percent of degrees that were completed in Mathematics and similar related subjects were awarded to minorities. There were many African American Mathematicians who had to find the

self-confidence to be who they are. Celebrating black history month it's only evident that the acknowledgement of African Americans in Mathematics are celebrated as well. Many may not have heard of Benjamin Banneker, Elbert Cox, Euphemia Lofton Haynes and many others. All these people have two things in common, their love and contributions to Mathematics and their skin color.

In the 1980's African American Women also excelled in mathematics. Not only was it difficult because their skin color but most of these women had tribulations just because of gender as well. Martha Euphemia Lofton Haynes was the first ever African American women ever to earn a PhD in mathematics. She graduated from the Catholic University in Washington, DC. After teaching in Washington DC's public schools for over forty-seven years, she earned the first ever women chair on an all white school board. She later on established a Mathematics department for Miners Teacher's College. Euphemia Hayes played a very vital role in developing the education system for the segregated African American schools. Fighting for equality, she was at the center of the integration of DC public schools. Not only did she excel in Mathematics but she was also on the committee for the Social Welfare Assemble, the Executive Committee of the DC Health, and Welfare Council. One of Dr. Hayes most celebrated accomplishments was when she was awarded the Papal Medal Award. Martha Euphemia Lofton Haynes paved the way for other African American Women to come after her. Upon her passing in 1980, she donated nearly seven hundred thousand dollars to the Catholic University of Washington DC. In her honor, the Catholic University of Washington DC named a scholarship fund and an education department chair after Dr. Hayes. In a time when it was so difficult to be a black women Dr. Hayes still excelled and gave great aspiration to other African American students.

Etta Zuber Falconer, was also one of the first African American Women to receive her PhD. In Mathematics in 1976. Even though according to (“A Brief History of the Association for Women in Mathematics”) she had three children and a very busy husband, Dr. Falconer still devoted her life to increasing the number of African American Women in Mathematics. In 1995, Dr. Falconer was honored by the Association for Women in Mathematics, she received the Louise Hay Award for her outstanding achievements in Mathematics. She also received in 2001, the American Academy of Arts and Sciences Mentor Award.

Evelyn Boyd Granville is another African American women who excelled in Mathematics in her time. Dr. Granville was also one of the first women to graduate summa cum laude in Mathematics, and receive a PhD from Yale University. Dr. Granville stated and one of her many Autobiographies, “Fortunately for me as I was growing up, I never heard the theory that females aren't equipped mentally to succeed in mathematics”. Although she was busy with getting her PhD and studying analytical analysis, that didn't stop her from being an advocate for women's rights. Evelyn Granville first worked with The National Bureau of Standards and IBM as a Mathematician. She even held a teaching position at the predominantly African American Texas College in Tyler, Texas (Blum 742). In Granville's Autobiography she explains how she felt it was her obligation to improve not just African American education, but all women education. Throughout her life she continued to volunteer, teach and spread her wisdom through the United States.

Another African American that is responsible for some incredible contributions in Mathematics is David Blackwell. Held to such a high stature Dr. Blackwell surpassed even his own expectations, as said in an Autobiography by Dr. Blackwell. Dr. Blackwell obtained his

PhD in mathematics when he was only twenty-two. Although Dr. Blackwell graduated with such high achievements it took him Thirteen years to earn a permanent position at a research oriented institution, at the University of California at Berkeley. While he earned his prestigious title putting in vigorous hours, Dr. Blackwell was refused many of jobs including Princeton University and the University of California at Berkeley because of his skin color. Over the course of his career he managed to become the first African American to become a member of the National Academy of Sciences (American Institutes for Research). Blackwell published thirty five papers and the well accomplished book “Theory of Games and Statistical Decisions” within a ten year time frame. “Blackwell has been names with some of the best mathematics of all time “says, Edward Spitznagel, a professor of mathematics at Washington University. Blackwell even has a theorem named after him called Rao-Blackwell theorem, which show how to turn guesses into good estimates. A few of his many honors include the von Neumann Theory Prize and the Blackwell-Tapia Award established by Cornell University in 2002.

At the Age of nineteen Jesse Ernest Wilkins earned his PhD from the University of Chicago. In 1954 Dr. Wilkins was described as “the Negro Genius” by the National newspapers. Almost immediately after earning his PhD Wilkins was a visitor of the Institute for Advanced Study, where he received no employment opportunities. Because of this Dr. Wilkins further his education by obtain a degree in Mechanical Engineering. Most of Dr. Wilkins career and academic life was spent working for the government industry and HBCU institutions. According to the Distinguished African American Scientists organization, Dr. Wilkins also was the instructor of Mathematics at the Tuskegee institute and a Physicist on the Manhattan Project. Dr. Wilkins became the first African American man to attend the White House Cabinet meeting. One of Wilkins greatest achievements was the development of the radiation shield against

gamma radiation. The development of his calculations of radiation techniques is still used to day by researchers in space and nuclear scientists. Dr. Wilkins published more than eighty papers in Mathematics, Engineering and Physics. According to the American Mathematics Society, over thirty publications of Wilkins work went on published due to lack of support. Dr. Wilkins later became the president of the American Nuclear Society, where he helped educate at least twenty-three African Americans on the study of Mechanical Engineering. Not only did Dr. Wilkins contribute to Mathematics, Physics, Engineering, he also contributed to the success of other African American Mathematicians.

Another Mathematics whose name holds great stature is Albert Bharucha- Reid. Bharucha obtained a Bachelor Degree in Mathematics and a Bachelor Degree in Biology from the University of Iowa. Although Bharucha never obtained a PhD, he still managed to write six books, and published over seventy papers in Mathematics and Biology. Throughout Bharucha's career he mentored over thirteen students and held several positions at the university of Chicago, Columbia, and California. Bharucha truly dedicated his life to his family and his study of Mathematical Biology. Even though Bharucha was never recognized until after his death, he still continued to put out publications and mentor students as the Dean of Wayne University. Bharucha finished off his career at Clark University, were he was known for his diverse measure of works.

Like many up and coming students, a lot of them want to have a connection with what they are studying in school. African American students and their perceptions of Mathematics has been altered over time, for maybe they may not notice any familiarity when it comes to Mathematics. All students need to know that even though mathematics is tuff, many people have

achieved greatness before them. Many people have asked is there a black Gauss or a black Einstein, the answer would be no. All these man have earned their very prestigious names in Mathematics. Black, White, or any race to excel in such which is such an undeniably hard subject is amazing. According to the Association of Women in Mathematics, Less than one percent of Mathematicians are African American. Many extreme obstacles prevented a lot of African American youth from joining the mathematical community in the 1900's. This article was never to discredit the works of the known names in mathematics but just to shine light on the African Americans who so well deserve recognition for their contributions to Mathematics.

