

CELEBRATING OUR DIVERSITY. THE EDUCATION OF SOME PIONEERING AFRICAN AMERICAN CHEMISTS IN OHIO

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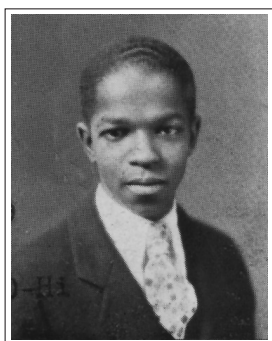


Figure 1. Thomas Nelson Baker Jr. Photo Courtesy of the Oberlin College Archives.

Thomas Nelson Baker Jr. may not be a household name, but he clearly represents the many African Americans that have achieved great success in higher education during a volatile racial period in our history (1). A native of Pittsfield, Massachusetts, Baker began his undergraduate studies at Oberlin College (Oberlin, Ohio) and earned his B.A. and M.A. in chemistry in 1929 and 1930, respectively. Baker completed his M.A. thesis entitled, "Some Esters of Anthranilic Acid" under the direction of his research advisor, Prof. Alfred P. Lothrop.

In 1931, Baker began graduate work at The Ohio State University (OSU, Columbus, Ohio) where he studied organic chemistry. Professor Melville Wolfrom, a well-known carbohydrate chemist, served as Baker's graduate advisor during his tenure at OSU. In order to support himself and his family, Baker taught at various Historically Black Colleges and Universities (HBCUs),

namely Tougaloo College (Mississippi), Talladega College (Alabama) and Virginia State College (now known as Virginia State University), where he taught from 1932-1972.

According to the acknowledgment section of Baker's dissertation, he received two fellowship awards to complete his graduate education (2). Baker received a fellowship from the General Education Board (1937-38) and a University Fellowship from OSU (1938-39). Established in 1902 by John D. Rockefeller and Frederick T. Gates, the General Education Board was a philanthropic effort to support higher education and HBCUs (3). Baker earned his Ph.D. in chemistry in 1941 from OSU with a dissertation entitled, "The Molecular Size of Glycogen and of Mannan A by the Mercaptalation Method (4)." It is believed that Baker may be the first African American to have earned a Ph.D. in chemistry from The Ohio State University. Baker later became a full professor at Virginia State College in 1944 and he served as chair of the department until his retirement in 1972. In addition to teaching responsibilities, Baker sang in the choir and played the oboe. He died on April 27, 1977.

Although Baker's academic and professional achievements are quite fascinating, his family background clearly emphasizes the importance of higher education. His three siblings Edith, Ruth, and Harry also attended Oberlin College and later pursued teaching careers in music and English. His father, Thomas Nelson

Baker Sr., born a slave in 1860 in Virginia became the first African American to earn a Ph.D. in Philosophy (1903, Yale University). Baker Sr. also attended Yale Divinity School and later served as a minister in Pittsfield, Massachusetts. Unfortunately, he died a year before his son completed his graduate studies at OSU (5). His death notice reads, "The Rev. Dr. Thomas Nelson Baker, a Negro born in slavery upon whom Yale University conferred a Ph.D. degree in 1903, died Feb. 24 after being overcome by fumes in his home in Pittsfield, Mass. He was 80 years old." (6)

In 1997, George Yancy published a fascinating article on the background and influence of Baker Sr. during the 20th century (5). Yancy concludes, "There is still a great deal that remains unexplored that is of importance in the life and philosophical worldview of Thomas N. Baker. For example, as a child, for Baker, what was it like growing up in Northhampton County, Virginia? How did his parents help him to deal with racism? Having been born enslaved and having inherited the culture of racist ideology, what impact did this have on Baker's self-esteem and self-conceptualization? What was it in the nature of Baker's character that provided him with such an inexhaustible desire to learn?"

The achievements of Baker Sr. surely had a profound impact on the success of his four children and future generations—grandson Thomas Nelson Baker III earned his Ph.D. in chemistry from Cornell University in 1963 and later worked in the petroleum industry. In 1936, Thomas Nelson Baker Jr. married Ruth Modena Taylor, who was an Assistant Professor of English at Virginia State College. They had two sons, Thomas Nelson Baker III and Newman Taylor Baker. After his first wife died in 1961, he later married Geneva J. Baker in 1964. Geneva Baker was an Associate Professor of Applied Art at Virginia State.

However, Thomas Nelson Baker Jr. is not the only first from OSU. In 1933, Ruth Ella Moore, a native of Columbus, Ohio, became the first African American woman to earn a Ph.D. in bacteriology (4, 7). Moore also earned her B.A. and M.A. at OSU, in 1926 and 1927, respectively. She would later have a very successful career in the Department of Bacteriology at Howard University, an HBCU in Washington, DC. In 1965, Robert Henry Lawrence Jr., a flight instructor in the United States Air Force and the first African American astronaut earned his Ph.D. in chemistry from OSU. Lawrence died in a tragic flight training accident in 1967. In January 2000, a room dedication ceremony was held in his honor at OSU (8). Lawrence earned his Ph.D. during the Civil

Rights Movement and dedicated his dissertation (9) to the on-going struggle for human rights:

This work is dedicated to those American Negroes who have spent their lives in the performance of menial tasks struggling to overcome both natural and man-made problems of survival. To such men and women scientific investigation would seem a grand abstraction. However, it has been their endeavors which have supplied both the wherewithal and motivation that initiated and helped sustain this effort.

Historically, after completing doctoral studies from a majority institution, the most common employers for African American Ph.D. scientists were HBCUs (4, 10). Obviously, employment opportunities for African American chemistry professors has improved over the years, but recent reports continue to suggest low participation of African Americans within the chemical sciences (11-13).

There are many questions that remain about Thomas Nelson Baker Jr. Why did he and his three siblings attend Oberlin College instead of Hampton Institute (now known as Hampton University) like their parents Rev. Dr. Baker and Elizabeth (Lizzie) Baytop Baker? The selection of Oberlin College was likely a logical choice considering that at one time Oberlin was known as an "active spot" for the Underground Railroad (14). Moreover, Oberlin College also had well-documented history regarding African Americans pursuing higher education. In 1862, Mary Jane Patterson became the first African American woman to earn an undergraduate degree in the United States (15). Thus, it is reasonable to assume that the Bakers knew their children would receive a quality education at Oberlin College.

Thomas Nelson Baker Jr. likely decided to pursue a Ph.D. at The Ohio State University due to the encouragement of Professor Alfred P. Lothrop, who served as his research mentor at Oberlin College. In his book, *Negroes in Science*, Jay indicates that OSU was one of the leading producers of African American Ph.D. scientists (10). According to Baker's college records, only one copy of his transcript was sent to Ohio State in May 1930. He didn't apply for graduate admission at other institutions such as Iowa State University (16), Wayne State University, or the University of Chicago, which were also known to produce African American Ph.D. scientists during Baker's time. It is also unknown if Baker and Moore actually knew each other because they would have overlapped in the early 1930s at OSU during their graduate studies.

In summary, Baker, Moore, and Lawrence represent the many heroes of science whose achievements are

seldom recognized and celebrated in science classes or textbooks. Their achievements during a volatile time in U.S. history are remarkable. They are significant because of their contributions to the field of science. However, they also represent the proud history and legacy of graduates from institutions in the state of Ohio.

Acknowledgements

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