The Testimony of William Hunter Dammond: The First African American Graduate of the University of Pittsburgh*

by

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Abstract

This article examines the life and times of William Hunter Dammond (1873-1956). He distinguished himself as the first African American graduate of the Western University of Pennsylvania (University of Pittsburgh) in June 1893. He was an educator, civil engineer and inventor with several important patents. The author's original research corrected a longstanding error in the official University of Pittsburgh history which up until that time listed John Coverdale Gilmer as the first African American graduate of the Western University of Pennsylvania (University of Pittsburgh) with a bachelor of arts in 1897. However, William Hunter Dammond graduated four years earlier with honors, thus holding a degree in civil engineering in June 1893. The University of Pittsburgh official history now has been corrected and records William Hunter Dammond as the first African American graduate.

To pursue a passion furnishes the drive to carry a work-in-progress to completion. History however, shows recognition sometimes can be slow in coming.

Up until recent times few African American inventors received recognition, "when in fact, Blacks were giants who contributed tremendously to the world."[i] As late nineteenth-century and early twentieth-century African Americans acquired the capacity to tinker purposefully, taking things apart and putting them together again, they picked up valuable mechanical skills adding to our nation's wealth.[ii] The first African American graduate of the Western University of Pennsylvania (University of Pittsburgh), William Hunter Dammond (1873-1956), was an inventor with several "important patents in operation."[iii] The technological revolution of the nineteenth century initiated an era in which all people could not only realize the benefits of advancement but also make meaningful contributions.

Background

The early influences in the life of William Hunter Dammond provided a middle class background. William Hunter Dammond was born (1873) in Pittsburgh's lower Hill District, the fifth of eight children of Edward Dammond and Lucy Dorsey. After the Civil War Edward Dammond, a sailor, migrated from Louisiana and found employment as a waiter in Pittsburgh. When the African American masses were unskilled workers, Edward Dammond's "service occupation" and evidence of mixed ancestry afforded the family a middle-class standing in the African American community. Given the importance of the African American church in the evolution of cultural and intellectual life in African American urban communities, a former house servant, Lucy Dorsey, migrated from Winchester, Virginia, to Pittsburgh and affiliated with Bethel African Methodist Episcopal Church (AME), the oldest church of its denomination west of the Alleghenies. The selection of Bethel AME as a home church probably was due in part to its notable role in the early struggle for Black education. The dynamics of the Dammond family's social and religious life were typical of the African American middle class in late nineteenth-century America.[iv]

The recognition of academic promise within the Dammond family members allowed for unique educational opportunities. During the late nineteenth-century few African Americans in western Pennsylvania attended school beyond the age of fourteen, but Mamie Dammond, the oldest sister of William Hunter Dammond, was recognized as "a scholar of much attainment." She graduated from normal school and later worked as the "instructress in the literary branch" of the Avery Trade School in neighboring Allegheny City.[v]

When few African Americans attended preparatory schools, as was common throughout the nation during the late nineteenth-century, the 1889 Annual Register for the Western University of Pennsylvania (University of Pittsburgh) listed "William Hunter Dammond, 71 Arthur Street, Pittsburg [sic]," as being enrolled in the first class of English at Park Institute. (At the time a vibrant African American community existed on Fulton and Congress streets, and on Clark, Colwell, and Arthur streets in the lower Hill District.) The exclusively-white preparatory school in Allegheny City offered "a thorough preparation" for entrance to the University: the four-term program included coursework in algebra, English, geography, zoology, physiology, and botany with additional electives in German and drawing. The rigorous training at Park Institute provided the academic grounding for entrance into the University's civil engineering program.[vi]

Civil Engineering

Late nineteenth-century America equated scientific and technological advancement with progress. Great bridges, such as the Roeblings' suspension bridge between Manhattan and Brooklyn (1883), were structural marvels. The demand for urban land and the availability after 1889 of elevators resulted toward the end of the century in the American skyscraper. Civil engineers were at the forefront of this technological revolution, providing innovations in design and construction, but few African Americans were aware of the fields of engineering and technology in 1890.[vii]

In 1889, William Hunter Dammond enrolled in the civil engineering program at the Western University of Pennsylvania. At the same time few African Americans were being admitted into engineering programs due to financial hardship and a lack of academic preparation. The few remaining African American applicants were "discouraged" from entrance for reasons of personal comfort. As a result, the numbers of African Americans enrolled in accredited engineering programs remained small in the late nineteenth-century. As an African American scholar, Dammond probably was a recipient of the Charles Avery Scholarship.[viii]

The scholarship minimized the family's financial burden, but young Dammond faced numerous challenges. The scholar probably experienced discrimination in housing and social ostracism, as was common for African American students at northern institutions in the late nineteenth-century. African American students were excluded from the collegiate engineering societies, groups in which membership traditionally was the "first step toward professional affiliation."[ix]

The civil engineering program was challenging, yet Dammond graduated "with honors" in June 1893. He successfully completed basic engineering courses in algebra, geometry, trigonometry, calculus, and surveying. Additional courses included German, mechanics, astronomy, descriptive geometry, elocution, hydraulics, chemistry, and physics. During the summer of his junior year Dammond visited an engineering structure (e.g. bridge) and prepared a description of the structure, accompanied by a line drawing. Completion of this thesis project was a graduation requirement. Contemporaries recognized Dammond as "the first colored graduate" of the Western University of Pennsylvania. [x]

As an African American civil engineer, William Hunter Dammond was in conspicuous position since few African American engineers existed in the country. The Massachusetts Institute of Technology (MIT), typical of most northern institutions, graduated its first African American in 1892, but it was not until twenty-five years later that MIT graduated an African American with a degree in civil engineering. As late as 1910, engineering was still considered "a relatively new profession" within the African American community. Before 1914 the majority of African Americans were graduates of northern colleges.[xi]

Young, Gifted, and Colored

During the early twentieth-century William Hunter Dammond gained a variety of experiences as he moved in search of employment opportunity. After graduation, twenty-three-year-old Dammond served brief stints as a clerk and sewer contractor in Pittsburgh, but he desired a more satisfying position as a teacher. He moved from Pittsburgh to Waco, Texas, and located employment as a mathematics professor in 1897. About a dozen faculty members comprised the small teaching staff of the African American college, which was one of sixteen academic institutions affiliated with the African Methodist Episcopal Church (AME). It is worthy noting again that Dammond was reared in the AME tradition in Pittsburgh. The professor then moved from Waco, Texas, to Wilberforce, Ohio, and located a teaching position at Wilberforce University, which was recognized as "the best of the sixteen AME academic institutions" in the early nineteenth-century. Dammond shortly thereafter relocated to Detroit, Michigan, and located employment as an assistant bridge engineer at the Michigan central Railroad where he invented "an electric cab signal, an improvement over, and destined to supplant, the block signal."[xii]

Another renowned African American inventor, Elijah McCoy, who studied mechanical engineering in Scotland, earlier worked as a fireman for the Michigan central railroad where he invented a drip cup lubricating system in 1872. This lubricating device, which was modified to use in numerous other industries, helped to make this country an industrial leader.

A patent was issued for Dammond's signaling system on December 29, 1903. Dammond's electric cab signaling system eliminated the need for dangerous manually-operated block signals and saved human lives. Dammond taught the signaling system to the mechanic, who constructed the apparatus, along with the chief engineer (later president of the company) and two engineers of other railroad companies in Detroit . This was followed by a patent for a "Safety System for Operating Railroads" in 1906. Dammond's work as an educator, bridge designer, and inventor ranked him "among the well known" in a 1915 publication, *The Michigan Manual of Freedmen's Progress*, which provided an account of notable African-Americans in Michigan.[xiii]

After 1910, the African American inventor moved to London, England, and located employment as a bridge designer for the Marcum Company. During the six years there William Hunter Dammond further developed the concept of the alternating current track circuit. Under his supervision the "equipment was made and installed on a locomotive and a stretch of track in Nottingham, England." ”The equipment was tested more than a thousand times under various weather conditions "for [a period of] thirteen months." ”English railroad experts from various locations observed the testing and "strongly commended" the invention. The alternating current tract circuit, which also was known as the Dammond Circuit, was recognized as being an “advance” upon existing signal systems.[xiv]

World War I prolonged Dammond’s stay in Europe, but in 1916 Dammond returned to this country. It was upon his return home that he and his wife Mable, a school teacher, moved to Farrell, Pennsylvania, where Dammond located employment as a draftsman at the Farrell Works of the Carnegie Illinois Company (United States Steel Corporation). There he observed that race was not yet an “insuperable barrier” to African American employment in western Pennsylvania. The Dammonds later moved to Marietta, Ohio.[xv]

William Hunter Dammond was recognized as a “mathematic [sic] genius,” but he received little recognition for other accomplishments. After a series of moves, he arrived in New York City where he became an activist for the Dammond Circuit. At the time several white individuals, who “independently discovered part of the Dammond Circuit, installed part of the alternating track circuit on an inter-urban line running out of Philadelphia,” meeting with somewhat satisfactory test results. He responded to criticism about the Philadelphia installation and highlighted the advantages of the Dammond Circuit. He also was “decidedly active in a movement urging that the block system” be modified for prevention of railroad wrecks. His publications included a letter in the *Engineering News*, a co-authored work, “A Symposium on Signals and Wrecks,” in the *Railway Review*, and two illustrated articles in *Cassier’s Engineering Magazine* (of London).[xvi]

As late as 1949, Dammond “continued to fight for recognition and compensation for his idea” according to A.S. ‘Doc’ Young, a reporter for the *Chicago Defender*. The African American engineer was employed as a structural draftsman at the New York City Board of transportation. The New York City subways, Pennsylvania, Long Island, and New York Central Railroads adopted “underdeveloped” versions of the Dammond Circuit, although these circuits provided “no protection” against a certain class of wrecks.[xvii]

The contributions of African American inventors altered the landscape, providing mortar to build America. Early African American inventors were called "tinkers," but the term did not fully convey the intricacies of their work. A professional engineer, William Hunter Dammond (1873-1956), achieved not only an outstanding educational record but made significant contributions to a major American industry where the African American masses were employed. Until recently there has been little acknowledgement of Black excellence as practiced by African American inventors, despite their significant contributions to the growth of America.

Notes

[i] David E. Wharton, A Struggle Worthy of Note: the Engineering and Technological Education of Black Americans (Westport, CT: Greenwood Press, 1992), pp. 3-4.

[ii] Ibid.

[iii] New York Age, Dec. 21, 1916; July 21, 1917.

[iv] Marie Charles, "Rambling Through The 'Hill'", unpublished paper; 1880 Federal Population Schedule, Pittsburgh, Allegheny County, Pennsylvania; 1900 Federal Population Schedule, Pittsburgh, Allegheny County, Pennsylvania; Marie E. Charles, interviewed by R. Barksdale-Hall, Pittsburgh, PA, April 4, 1994; 1870 Federal Population Schedule, Pittsburgh, Allegheny County, Pennsylvania; Ann G. Wilmoth, "Toward Freedom: Pittsburgh Blacks, 1800-1870," Pennsylvania Heritage, 4:1 (1977), pp. 14-19.

[v] Ann G. Wilmoth, "19th-Century Education in Pittsburgh, Allegheny City, Paths Towards Equality?" in Blacks in Pennsylvania History: research and Educational Perspectives, by the Pennsylvania Historical and Museum Commission (Harrisburg, PA: Pennsylvania Historical and Museum Commission, 1983), p. 4; Allegheny, August 12, 1899; Howard Dammond, interviewed by R. Barksdale-Hall, Pittsburgh, PA, April 1, 1994.

[vi] David E. Wharton, A Struggle Worthy of Note: The Engineering and Technological Education of Black Americans (Westport, CT: Greenwood Press, 1992), pp. xi-xii; Ronald C. Carlisle, "'Arthursville' An Antebellum Black Settlement In The Lower Hill District of Pittsburgh, Pennsylvania," Paper prepared for the Middle Atlantic Archaeological Conference, Ocean City, Maryland, 5-7 April 1991. Eliza Smith Brown, African-American Historic Sites Survey of Allegheny County (Final report for the Pennsylvania Historical and Museum Commission), by the Landmarks design Associates Architects & The Pittsburgh History & Landmarks Foundation, 1992, pp. 4, 108-118, 157-191; Annual Register, The Western University of Pennsylvania, Pittsburgh, PA, June, 18889, pp. 47-49, 54-57.

[vii] Wharton, A Struggle Worthy of Note, p. 54; The Encyclopedia Americana International Edition (Danbury, CT: Grolier, 1987), vol. 20, pp. 359-361.

[viii] Wharton, A Struggle Worthy of Note, p. 37; New York Age, Dec. 21, 1916; Catalogue of the Western University of Pennsylvania, Pittsburgh, PA, 1893-94, p. 18. University [of Pittsburgh] Times, Feb. 19, 1987. A white man, Charles Avery perhaps did the most to help African-Americans enter the mainstream of higher education in late nineteenth-century Western Pennsylvania. When Avery died in 1858, the Western University of Pennsylvania received $25,000 to establish full tuition scholarships for the education of African-American males.

[ix] Wharton, A Struggle Worthy of Note, p. 38.

[x] New York Age, Dec. 21, 1916; Transcript of William Hunter Dammond, the Western University of Pennsylvania, Pittsburgh, PA, 1889-1893; Annual Register, The Western University of Pennsylvania, Pittsburgh, PA, June 1889, pp. 28-34. Catalogue of the Western University of Pennsylvania 1893-94, pp. 64-74.

[xi] The American Negro Reference Book (Englewood Cliffs, NJ: Prentice-Hall, 1996), p. 586; Wharton, A Struggle Worthy of Note, pp. 58-61.

[xii] 1896, 1897 Directory of Pittsburgh and Allegheny Cities; Marie E. Charles, "Rambling Through the Hill," unpublished paper; New York Age, Dec. 21, 1916; An Era of Progress and Promise, 1863-1910 (Boston, MA: the Priscilla Publishing Company, 1910), pp. 278, 283; Minutes of the Board of Trustees, Wilberforce University, Wilberforce, OH, 1899-1911. An Era of Progress and Promise, p. 280; Frances H. Warren, compiler, Michigan Manual of freedmen's Progress (Detroit, MI: , 1915), pp. 291, 301.

[xiii] Patent no. 747,949, Signaling System; patent no. 823,513, Safety System for Operating Railroads; A.S. 'Doc' Young, "Railroad Show Recalls Inventive Genius of Robinson, Dammond," Chicago Defender (Magazine Section). June 25, 1949, p. 20; Notes obtained from William Hunter Dammond, New York, NY, Sept. 15, 1950. (from the Schomburg Center for Research in Black Culture Clipping File, New York , NY).

[xiv] Alumni Directory University of Pittsburgh, 1787-1910, vol. I; New York Age, Dec. 21, 1916. Alumni directory University of Pittsburgh, 1787-1916 vol. II; Notes obtained from William Hunter Dammond, New York, NY, Sept. 15, 1950; Harold C. Francis, "Brief History of the Invention of W.H. Dammond, C.E." (from the Schomburg Center for Research in Black Culture Clipping File, New York , NY).

[xv] Howard Dammond, interviewed by R. Barksdale-Hall, Pittsburgh, PA, April 1, 1994. Sharon Herald, July 21, 1917; Dennis C. Dickerson, Out of the Crucible: Black Steelworkers in Western Pennsylvania 1875-1980 (Albany, NY, State University of New York Press, 1986), pp. 19-20; Sharon Herald, July 21, 1917.

[xvi] Marie E. Charles, "Rambling Through the Hill," unpublished paper; Harold C. Francis, "Brief History of the Invention of W.H. Dammond, C.E."

[xvii] Notes obtained from William Hunter Dammond, New York, NY, Sept. 15, 1950; Howard C. Francis, "Brief History of the Invention of W.H. Dammond, C.E."