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“IN LOS ALAMOS, I FEEL LIKE I’M A REAL CITIZEN”:  
BLACK ATOMIC SCIENTISTS, EDUCATION, AND CITIZENSHIP,  
1945-1960

In 1955, *Ebony* magazine ran a feature article on George Johnson, an African American nuclear scientist working at the United States military research facilities at Los Alamos, New Mexico. This magazine, which targeted middle-class African American readers, showed Los Alamos as a progressive town of the future with well-maintained housing and excellent amenities. Photographic illustrations displayed Johnson, his wife, and their daughter in a variety of community settings: in the lab, at the town’s modern grocery store, near their church, at home playing cards with white friends. In praising the planned community, *Ebony* quoted Johnson, who said that “there is no racism at Los Alamos, the scientists mostly being very progressive people. In Los Alamos, I feel like I’m a real citizen.”<sup>1</sup>

Johnson’s statement reveals a notable aspect of the social meanings of science in the early Cold War. Science was not merely a method of discovery about the physical world; it was also a key component of national defense, a rapidly-growing career opportunity, and a symbol of societal progress through rational thought. By articulating the idea that scientific worldviews could cure racism, Johnson and the *Ebony* editors who quoted him were participating in an optimistic discourse about citizenship and science. Because scientists spent their days observing facts and analyzing them without preconceived notions, they were ideal symbols of enlightenment within the struggle for African American political rights.

Although *Ebony* had been presenting scientists of color as progressive heroes since the late 1940s, the reality of these men and women’s lives was much more complex. For a prospective scientist of color, the United States in the late 1930s and early 1940s presented a number of educational obstacles, which then transmuted into career imped-

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<sup>1</sup>George Johnson, quoted in “Secret City of Sudden Death”, *Ebony*, November 1955, 58.



iments later in their lives. By exploring these hurdles and how African American scientists negotiated them, historians can understand important relationships among American racial ideologies, citizenship, and notions of scientific progress during the early Cold War. During this period, science became a career by which African Americans could attain economic well-being, a component of the general knowledge necessary for informed democratic citizens, and a symbol of Black intellectual achievement in the face of structural racism.<sup>2</sup>

Within the larger context of American scientific research, atomic science became particularly vital during and after World War II. The work of the Manhattan Project ended the war concretely with the atomic bombs on Hiroshima and Nagasaki. Between 1945 and 1950, atomic science became both a concrete means for maintaining American military power and an international symbol of American intellectual vigor. In its symbolic capacity, it played a key role in domestic politics and culture, where atomic scientists appeared as the keepers of a progressive nuclear future. At the same time, increasing numbers of educated Americans were able to pursue scientific research as a professional career. Among these were a select number of African Americans, the children of a generation which had migrated in large numbers to the urban areas of the Northeast and Midwest. These men and women came of age at a time when African Americans increasingly demanded economic, educational, and political opportunities previously enjoyed only by whites. The fact that there were so few of them testifies to the significance of structural discrimination against African Americans and its impact on American scientific research during the early Cold War.

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<sup>2</sup>My work here has been strongly influenced by Rayvon Fouché's approaches to the study of African American inventors in the late 19th and early 20th centuries. In particular, Fouché argues that celebratory approaches to the lives of Black inventors have tended to overestimate their importance and minimize the role of structural racism in their lives. See Rayvon Fouché, *Black Inventors in the Age of Segregation: Granville T. Woods, Lewis H. Latimer, & Shelby J. Davidson* (Baltimore: Johns Hopkins University Press, 2003).



To understand how scientific research became a new career path for Black Americans during World War II, it is vital to know how those scientists received their educations. This first generation of Black atomic scientists were mostly born between 1918 and 1925, though several were born in the decade prior. Of the approximately twenty Black scientists whose names appeared in the African American press in connection with atomic research, the vast majority were male; only three were female. This group included a handful of Ph.D.s as well as a number of master's degree recipients. Some of the scientists profiled in the African American press were more accurately categorized as technicians; they held only bachelor's degrees or high school diplomas. Despite their low professional status, they are included here because Black newspapers and magazines considered them important enough to profile in some detail. I do not include clerical workers within the emerging postwar scientific bureaucracy, who seldom appeared as individuals in the Black press. This essay describes the most publicly visible Black atomic scientists, those who appeared by name in published accounts.<sup>3</sup> Because relatively few of them held doctoral degrees, biographical information about them in scientific reference works tends to be scarce.<sup>4</sup> Even so, enough information survives to describe this group of men and women within the context of their times.

Generationally, the first African American atomic scientists were almost all children of the Great Migration, the gradual movement from the rural South to urban areas like St. Louis, Chicago, and New York which began around 1914. The oldest of the scien-

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<sup>3</sup>Existing literature has focused on specific disciplines, particularly physics, in discussing postwar nuclear research. In contrast, I define "atomic science" broadly to include physicists, chemists, engineers, mathematicians, and other scientific professionals who worked with nuclear materials. Although I recognize that each discipline was separate from the others in important ways, popular conceptions of "atomic science" in the period before 1960 were sufficiently unified that a cross-disciplinary definition is more useful.

<sup>4</sup>I refer in particular to the *American Men & Women of Science* series. In some cases, one or two mentions in a Black-targeted periodical and a capsule biography in *American Men & Women of Science* is the only published and indexed information about an individual. *American Men & Women of Science* focuses only on living scientists, and sometimes even living scientists listed in one edition are not listed in the next, making compilation of life histories difficult.



tists were more likely to have been born in the South and to have left it at some point in their childhood; the younger ones tended to have been born in the upper Midwest. In terms of their undergraduate educations, the scientists fell into two broad groups. The first attended historically Black colleges and universities, which were located largely in the South. Among these, St. Augustine's College (North Carolina), Fisk University, and particularly Howard University were most common. The second group attended public and private universities in the Midwest, such as Purdue University, the University of Illinois, and the University of Michigan.<sup>5</sup> Many scientists from both groups attended the University of Chicago for graduate study, a factor which contributed significantly to their later participation in atomic science.

Within communities of color in the early 20th century, an advanced scientific education was a rarity. During this period, 80 percent of African Americans lived in the states of the former Confederacy. There, they faced educational systems which barely acknowledged their existence.<sup>6</sup> Public schools, which received funding from taxes paid equally by white and Black citizens, disproportionately benefited white students.<sup>7</sup> Black taxpayers who wanted their children to receive even a primary school education often paid twice for schools: once in state taxes and again by contributing cash and volunteer labor for the building of local segregated schools.<sup>8</sup> Parents who valued education often found financial support from philanthropies like the Rosenwald Fund, which built almost a quarter of the primary schools attended by Southern Black children in 1929.<sup>9</sup>

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<sup>5</sup>A few well-off individuals from the Northeast took a third path, attending elite New England schools; these included the brothers William and Lawrence Knox. Percentagewise, they were an anomaly.

<sup>6</sup>Robert K. Weaver, "Development of Science Curricula in Negro Schools," *Journal of Negro Education* 25:2 (Spring 1956), 118.

<sup>7</sup>Louis R. Harlan, *Separate and Unequal: Public School Campaigns and Racism in the Southern Seaboard States 1901-1915* (Chapel Hill: University of North Carolina Press, 1958), 11-18.

<sup>8</sup>James Anderson, *The Education of Blacks in the South, 1880-1930*, (Chapel Hill: University of North Carolina Press, 1988), 156-7, 183-5.

<sup>9</sup>Anderson 156-85.



Most high schools for Southern students of color were located in urban areas.<sup>10</sup> The Progressive era witnessed a huge growth in the number of Southern high schools. Once federal courts interpreted the 1896 *Plessy v. Ferguson* decision to mean that Black high schools were not required, the number of white-only high schools rose rapidly.<sup>11</sup> Thus, by 1933, 54 percent of appropriate-age white Southern students were attending high school, in contrast with only 18 percent of black students of the same age.<sup>12</sup> Moreover, because of chronic underfunding, Black high schools generally focused their science coursework in “practical” areas such as general science. Where science classes were specialized, they tended to be in biology, the most useful specialty for future doctors within a racially segregated medical system. Physics and chemistry, which required laboratory equipment and supplies separate from those for biology, appeared much less frequently in the schools’ science curricula.<sup>13</sup> The few Black high schools that existed focused much more frequently on a classical curriculum that included foreign languages and literature, the backbone of a liberal education.<sup>14</sup> As historian James D. Anderson has noted, African American high schools were designed to educate the “talented tenth” of the Black community: ministers, doctors, and economic elites who would go on to study at the historically Black colleges and universities.<sup>15</sup> Scientists outside the medical profession were a new kind of professional which these schools were rarely equipped to train.

Once an African American student reached a historically Black college, he or she was likely to face similar curricular deficits in the sciences. Not only were private church-funded colleges focused on classical education; publicly-funded universities for students of color lacked agricultural experiment stations or other research facilities.

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<sup>10</sup>Anderson 186.

<sup>11</sup>Anderson 187-97.

<sup>12</sup>Anderson 236.

<sup>13</sup>Weaver 127-8.

<sup>14</sup>Anderson 243.

<sup>15</sup>Anderson 243-7.



Administrators of both private and public Black institutions saw no need to spend tight budgets on laboratory equipment for physics or chemistry, given that their graduates would be virtually unemployable except as teachers in segregated schools. Most teachers of science in Southern secondary schools, white or black, also taught other subjects; they had no specific training in science education, which limited their ability to teach effectively.<sup>16</sup>

The odds of Black students from the South earning high school diplomas and college degrees were particularly low, but some managed to overcome structural discrimination and to specialize in the sciences. Chemist Moddie Daniel Taylor, who would receive a certificate of honor for his participation in the Manhattan Project, was born in 1912 in Nymph, Alabama. Nymph, a crossroads town in the Black Belt of southern Alabama, may have had particularly exceptional teachers in its segregated schools. As educational historian Vanessa Siddle Walker has suggested, some Black schools employed more qualified faculty than white schools in the same county. Because teaching was one of the only careers available to an educated Black man or woman during this period, exceptionally talented individuals with degrees from prestigious Black institutions could and did teach in rural areas where few white degree-holders existed.<sup>17</sup> Montgomery, a short train ride away, had the nearest high school Taylor could have attended; it is likely that he and his parents migrated elsewhere during his childhood, the peak of the Great Migration. By a series of events which are unclear, Taylor managed to complete enough secondary education to attend Lincoln University in Missouri. He earned his Bachelor of Science in 1935 at the age of 23. It is difficult to know what combina-

<sup>16</sup>Weaver 118-129. For an analysis of these trends as they affected aspiring Black engineers, see David E. Wharton, *A Struggle Worthy of Note: The Engineering and Technological Education of Black Americans* (Westport, Connecticut: Greenwood Press, 1992), 45-57.

<sup>17</sup>Vanessa Siddle Walker, *Their Highest Potential: An African American School Community in the Segregated South* (Chapel Hill: University of North Carolina Press, 1996), 4-8.



tion of personal determination, family support, community encouragement, and quality teaching sustained Taylor, but his achievements were rare in his generation.<sup>18</sup>

Moddie Taylor's educational career was similar to that of Jasper Jeffries, born in Mocksville, North Carolina, near Winston-Salem, also in 1912. Educated at historically-Black West Virginia State College, Jeffries demonstrated a common career trajectory for the early Black atomic scientists. Because prevailing racial ideologies held that Black men were fit only for manual labor or service occupations, Jeffries moved from place to place for employment. He taught in the North Carolina public schools in the mid-1930s before moving to Illinois.<sup>19</sup> Jeffries and Taylor would eventually both attend the University of Chicago, gaining master's degrees within two years of one another.<sup>20</sup> Sources do not exist to confirm that they knew one another, but it seems likely that Black students at the University may have supported one another through informal social networks.

Taylor and Jeffries represented a geographic minority among the Black atomic scientists. Most of their peers were born not in the South, but in the upper Midwest and the urban Northeast. In the Northeast, Progressive-era educational reforms often led to increased school segregation; quests to "improve" schools resulted in Black students being shunted into one new district school rather than remaining in smaller, racially-integrated local schools. Even so, the grip of Jim Crow in the Northeast was not so strong; social institutions were not nearly as segregated as in the South. Moreover, children who grew up in cities with strong Black communities could benefit from the work of African American charitable and educational groups, even when public schooling was racially segregated. Future nuclear chemists Harold Delaney and Lloyd Quarterman, both born in Philadelphia, entered primary school in the mid-1920s, when that

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<sup>18</sup>Biographical information in this paragraph is from Vivian Ovelton Sammons, *Blacks in Science and Medicine* (New York: Hemisphere Publishing Corporation, 1990), 227.

<sup>19</sup>On the larger climate of public schooling in North Carolina during Jeffries' youth, see Harlan 102-134.

<sup>20</sup>On Jeffries, see *American Men & Women of Science* (New York: R. R. Bowker, 1972), 12th ed., vol. 3, 3021.





city's educational system was becoming increasingly separated by race. During 1925-26, the Philadelphia school board was embroiled in controversy over the new Walter George Smith Public School in South Philadelphia. This school enrolled not only children of color from the surrounding school district, but also African American children from other nearby schools who were required to transfer to the new all-Black school. Although the local chapter of the National Association for the Advancement of Colored People fought the school's racial segregation, they lost their battle with the school board.<sup>21</sup> By 1929, Philadelphia's schools would be notably more racially segregated than they had been thirty years prior.<sup>22</sup>

Despite such structural separation, African American community groups in Philadelphia valued education highly. The local Black lodge of the Benevolent and Protective Order of Elks allotted a percentage of membership dues to a scholarship fund for secondary and postsecondary education.<sup>23</sup> Delta Sigma Theta and Alpha Phi Alpha, societies of Black collegians, sponsored an annual "Go to High School-Go to College" campaign. The segregated schools would serve as valuable meeting places for community organizations.<sup>24</sup> In 1925, the year Harold Delaney would have entered first grade, one of these organizations sponsored a visit and lecture by African American biologist and inventor George Washington Carver.<sup>25</sup> Although Delaney and Quarterman did face segregated educational systems, the strength of their northeastern Black community helped to counteract some of these inequalities.

The Black scientists born or reared in the upper Midwest faced similar challenges and opportunities as those in the Northeast, but they were more numerous and to some extent more successful. Although some attended historically Black colleges and uni-

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<sup>21</sup>V. P. Franklin, *The Education of Black Philadelphia : the Social and Educational History of a Minority Community, 1900-1950* (Philadelphia: University of Pennsylvania Press, 1979), 78-83.

<sup>22</sup>Franklin 86.

<sup>23</sup>Franklin 94-95

<sup>24</sup>Franklin 94-97.

<sup>25</sup>Franklin 100.





versities, more graduated from public land-grant universities. These institutions were racially integrated; moreover, they offered higher quality science coursework than the historically Black colleges. Ralph Gardner, born in 1922 in Cleveland, was able to attend the University of Illinois, receiving his bachelor's degree in 1943. Virgil Trice, who was four years younger, was born in Indianapolis; by 1945 he would earn bachelor's and master's degrees in chemical engineering from Purdue University.<sup>26</sup> Chicago native and mathematician Sylvanus Tyler left the region to attend historically Black Fisk University in Nashville, receiving a B.A. in 1936. Shortly thereafter, he returned to the University of Chicago, receiving a master's degree in 1938. Mathematical prodigy J. Ernest Wilkins, born into a prominent Chicago family of color, entered the University of Chicago in 1940 at the age of seventeen, earning bachelor's, master's, and doctoral degrees in the space of three years.<sup>27</sup> For these young men, the Great Migration produced a tangible payoff: the ability to acquire scientific knowledge sufficient for a professional research career.<sup>28</sup>

Regardless of the scientists' regions of origin or educational achievements, the racial ideologies which governed their lives were similar. In general, Black men faced a social division of labor which restricted them to physical labor and service occupations. In industrial areas, their jobs were so dirty or so dangerous that white men refused to take them. White men handled all tasks which required precision or skill in the use of machines. In the rural South, by the late 1930s, black sharecroppers were being replaced by large-scale mechanical cultivation methods. Moreover, limited wages for

<sup>26</sup>Sammons 234; *American Men & Women of Science* (New York: R. R. Bowker, 1996), 19th ed., vol. 7, 231.

<sup>27</sup>Kessler et al, *Distinguished African American Scientists of the 20th Century*, 332; *American Men & Women of Science* (New York: R. R. Bowker, 1998), 20th ed., vol. 7, 760; Sammons 250. At 19, Wilkins was the youngest Ph.D. in the University's history.

<sup>28</sup>Robert A. Margo has demonstrated that educated or urban African Americans in the South were more likely to move northward than were less educated or rural Blacks. See Robert A. Margo, *Race and Schooling in the South, 1880-1950: An Economic History* (London and Chicago: University of Chicago Press, 1990), particularly pages 109-127.



Black men increased the importance of the family as an economic unit; their mothers, sisters, and wives often worked in service occupations to bring in sufficient wages to support children.<sup>29</sup>

Restricted in their economic opportunities, educated Black men and women had very few career options which allowed them to use their educations. For a college-educated man of color like Jasper Jeffries, teaching at a segregated school was one of the only employment possibilities, and even that was sporadic. Harold Bethuel Evans, born in Indiana in 1907, had earned a master's degree in chemistry from Michigan State University by 1932, but his scientific career was virtually nonexistent for the following decade. Except for one school year's teaching at the Georgia State Normal College in 1935-6, Evans had no regular scientific employment until he was hired by the federal government's Kankakee (Illinois) Ordnance Works in 1941.<sup>30</sup> He married in 1932 and fathered one child; the historian must assume that during the Depression Evans took whatever work was available, despite his professional qualifications.

Elites in the Black community fared somewhat better in the labor market; these included chemists William J. Knox and Lawrence H. Knox and mathematician J. Ernest Wilkins, Jr. The Knox brothers were scions of a New Bedford, Massachusetts family which had been free before the Civil War; among their ancestors was Harriet Jacobs, author of *Incidents in the Life of a Slave Girl*.<sup>31</sup> William, the elder of the two brothers, earned his bachelor's degree from Harvard College in 1925, then taught at historically Black Johnson C. Smith University in Charlotte, North Carolina for three years.<sup>32</sup> Subsequently, he earned master's and doctoral degrees from the Massachusetts Institute of Technology. His brother Lawrence earned his bachelor's degree from Bates College, his

<sup>29</sup>Jacqueline Jones, *American Work: Four Centuries of Black and White Labor* (New York: W. W. Norton, 1998), 301-336.

<sup>30</sup>Sammons 87, *American Men of Science* (New York: R. R. Bowker, 1965) 11th ed., vol. 2, 1450.

<sup>31</sup>Jean Fagan Yellin, "Harriet Jacobs's Family History", *American Literature* 65 (1994), 765-767.

<sup>32</sup>On Johnson C. Smith University, see Anderson 123-4.



master's degree from Stanford, and his Ph. D. from Harvard.<sup>33</sup> The Knox brothers must have been fairly affluent to move with such ease for education. In contrast, Wilkins started and finished his education at the University of Chicago, in his home city. His father was a prominent minister, his brothers would become prominent civil rights activists, and he was a child prodigy.<sup>34</sup> Most educated Black men lacked the social, educational, and economic opportunities enjoyed by Wilkins and the Knox brothers. For them, finding work as researchers or educators seems to have been a constant struggle.

Whatever their career difficulties had been, the war in Europe changed these men's lives. The mobilization of the American economy for war created labor shortages. Thus, during the rush to aid Britain's war effort, Kankakee Ordnance Works hired chemist Harold Evans in 1941. The military draft, once established, did not exempt scientifically-trained personnel; some may also have volunteered. Thus, Sylvanus Tyler, Virgil Trice, Jasper Jeffries, and Philip Sellers all served in the armed forces during the war. Most significantly, the U. S. Army Corps of Engineers was working at top speed within the Manhattan Engineer District, later commonly known as the Manhattan Project. This project to develop a nuclear weapon needed all available brainpower to succeed before the Germans. In their race against time, they hired at least six Black scientists. In New York, the District hired William J. Knox to work at Columbia University. At the University of Chicago, the Metallurgical Lab hired J. Ernest Wilkins, Jr., Sherman Carter, Moddie Taylor, Jasper Jeffries, and Benjamin F. Scott. Their work, along with that of their white native-born and emigré colleagues, would change the course of the war and the role of science in American politics.

Chicago was pivotal in the lives of the first Black atomic scientists. The Illinois city was, together with New York and St. Louis, one of the major destinations for the Great

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<sup>33</sup>Sammons 144.

<sup>34</sup>Roy Wilkins, the third executive secretary of the NAACP, was the scientist's brother. See Alton Hornsby, *Milestones in 20th century African-American History* (Detroit: Visible Ink Press, 2003), 56.



Migration. Historians have located economic factors as a major reason for Chicago's attractiveness to African American migrants. Unlike primarily industrial cities such as Detroit, Chicago had a diverse enough economy that black workers, male and female, could find work not only in menial occupations but also in a variety of small industries. As Chicago's Black community grew, it provided entrepreneurial possibilities for Black businesspeople. In addition, the concentration of African Americans on the South Side of the city made the Second Ward a center of political power for Black Chicagoans.<sup>35</sup> Hyde Park, the southern Chicago location of the University of Chicago, was in the 1940s a white neighborhood, and white neighborhood "improvement associations" defended it vigorously from residential encroachments by African Americans.<sup>36</sup>

Despite poor living conditions for many Blacks in Chicago, the existence of the University near a large and vibrant community of color drew aspiring African American scientists. Moddie Taylor moved from Missouri in the mid-1930s to pursue a chemistry degree at the University. He received his master's degree in 1938 at the same time as mathematician Sylvanus Tyler, a native of Chicago. Taylor probably knew Jasper Jeffries, who moved to Chicago in the late 1930s, receiving his master's in chemistry in 1940. Jeffries and Tyler did not stay in Chicago; Jeffries taught in the Gary, Indiana public schools, while Tyler taught at Tougaloo and at Alabama A&M. Both subsequently served in the U.S. armed forces.<sup>37</sup>

A more significant pull to Chicago began in 1943 with the flurry of research at the University's Metallurgical Lab (colloquially known as the "Met Lab"). There, a group

<sup>35</sup>Eric Arnesen, *Black Protest and the Great Migration: A Brief History with Documents* (Boston: Bedford/St. Martin's, 2003) 10-15, 35-37. For more on Chicago's role in the Great Migration, see Nicholas Lemann, *The Promised Land: The Great Black Migration and How It Changed America* (New York: Knopf, 1991).

<sup>36</sup>Arnesen 15-18.

<sup>37</sup>On Tyler, see Sammons 236, *American Men of Science* (New York: R. R. Bowker, 1965) 11th ed., vol. 6, 5509; on Jeffries, *American Men & Women of Science* (New York: R. R. Bowker, 1972) 12th ed., vol. 3, 3021, "Negro Scientists Played Major Role in Atomic Bomb Development," *Pittsburgh Courier* August 18, 1945, 1; on Taylor, Sammons 227.



of European emigré scientists including Leo Szilard and Enrico Fermi were working on the possibility of controlled nuclear fission and on isolating plutonium as fissionable material. Among the group of about 400 scientists and staff working at the Met Lab by early 1945 were a few African Americans.<sup>38</sup> Ernest Wilkins was a research group leader; he and fellow Chicago-trained mathematician Jasper Jeffries possibly worked together. (After a year teaching in the Gary, Indiana public schools, Jeffries had returned to Chicago to participate in the Met Lab's work.) Also at the Met Lab were Benjamin Scott, Moddie Taylor, Harold Evans, Ralph Gardner, and Lloyd Quarterman.<sup>39</sup>

The Met Lab worked in tandem with a group of scientists at Columbia University in New York. Leading chemist I. I. Rabi led the Columbia group, which also included the brothers William and Lawrence Knox and the chemist Sherman Carter. The Knoxes had left their teaching positions at historically-Black North Carolina College and Talladega College to pursue the government's research.<sup>40</sup> The New York research group was established first as a project for the U.S. Army Corps of Engineers. The Manhattan Engineer District would eventually encompass not only research sites in Manhattan and Chicago but also much larger industrial installations at Los Alamos, New Mexico; Oak Ridge, Tennessee; and Hanford, Idaho.<sup>41</sup> Existing work about African Americans and the Manhattan Project mainly has described the racial division of manual labor at the industrial sites, overlooking the work of the research scientists. Although the number

<sup>38</sup>Holl 33.

<sup>39</sup>On Quarterman, see Sammons 196, Van Sertima 266-9. On Evans, see Sammons 87, *American Men of Science* (New York: R. R. Bowker, 1965) 11th ed., vol. 2, 1450. On Gardner, see *American Men & Women of Science* (New York: R. R. Bowker, 1986) 16th ed., vol. 3, 37. On Jeffries, see "Negro Scientists Played Major Role," 1; On Taylor, Sammons 227. Evans, Gardner, and Quarterman's professional records all claim work at "Argonne National Lab" starting before 1945. Since Argonne was not formally split from the Met Lab until 1945, I take this to mean that they were also researchers for the Manhattan Project. Although 1945 newspaper accounts in the Black press did not list their names, I assume that they were in fact working on the atomic bomb.

<sup>40</sup>Sammons 144. Lawrence is recorded as having worked in the "Division of War Research"; it is unclear whether this was the same as the nuclear research going on in his brother's lab.

<sup>41</sup>Hales, *Atomic Spaces: Living on the Manhattan Project* (Urbana: University of Illinois Press, 1997), 1. The MED also had over 100 small sites scattered throughout the country.



of Black scientists at the Met Lab was barely one percent of the staff, their mere existence suggests that Roosevelt's Executive Order 8802 may have had more impact than previously thought. Although the Fair Employment Practices Commission established by the order was largely toothless, it opened the possibility of legally desegregated war work.<sup>42</sup> The existence of Black atomic scientists within a culture which denied Black men's intellect demonstrated the possibilities of science as an egalitarian career. That there were so few was a testament to the structural racism of American education.<sup>43</sup>

As the war continued, the theoretical research at the Met Lab gradually became a smaller part of the Manhattan Project's overall work. The Met Lab had focused on achieving controlled nuclear fission; its project to build a nuclear reactor had culminated on December 2, 1942, when researchers successfully began a nuclear reaction, then kept it from catastrophe by means of cadmium control rods. Once this pivotal work was finished, Los Alamos engineers and technicians worked around the clock to isolate enough fissile material for the completion of two atomic weapons. The Chicago office gradually became isolated from the main work of production; in 1944, the Du Pont company signed an agreement with the federal Office of Scientific Research and Development to operate the Metallurgical Lab. Department assignments at the Met Lab were famously subject to change depending on current project requirements. The scientists of the Manhattan Project generally worked in whichever research groups could use them most, even if this required relocation to another site.<sup>44</sup>

Of the black scientists at the Met Lab, there is no evidence that any of them moved to sites other than Chicago; this is a testament to the powerful racial geography of the Manhattan Project. Chicago was paradise for a Black man and his family compared to

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<sup>42</sup>For more on FEPC, see Samuel Krislov, *The Negro in Federal Employment: the Quest for Equal Opportunity* (Minneapolis: University of Minnesota Press, 1967), 30-36.

<sup>43</sup>Hales 25-7

<sup>44</sup>Jack M. Holl et al., *Argonne National Laboratory, 1946-96* (Urbana: University of Illinois Press, 1997) 24-29.



the Project's other locations. The three most important of these were Los Alamos, New Mexico; Hanford, Idaho; and Oak Ridge, Tennessee. They accomplished the industrial work of the Project, from the mining and refining of uranium to the actual construction and testing of the bombs. At Los Alamos, housing was racially segregated, and the barracks-style "hutments" meant for Black men were the worst living accommodations available.<sup>45</sup> They were largely workers' housing, meant for construction crews. Other menial work at Los Alamos, such as domestic service, maintenance, and gardening, was largely the province of Latino and Native American workers from the nearby towns. Similarly, the culture of the barracks housing for Black workers at Hanford, Idaho, was so rough that police did not intervene unless violence erupted onto the streets. Hanford's town planners discouraged African American men from bringing their families to the isolated industrial site, requiring the workers to purchase family housing trailers at their own expense.<sup>46</sup>

At Oak Ridge, Tennessee, the planning firm Skidmore, Owings, and Merrill (SOM) designed a utopian scientific town whose residences featured "separate living quarters for colored maids."<sup>47</sup> As the town grew, officials rapidly appropriated SOM's "Negro Village" housing for white workers, relocating black workers to barracks close to dangerous worksites.<sup>48</sup> Education for black children was at first nonexistent, then racially segregated; even after a primary school was built, black teens had to travel to Knoxville to attend high school.<sup>49</sup> Given such conditions, it is no wonder that none of the Chicago scientists of color relocated to the locations of the Project which were more critical in the project's late work. In Chicago, they had a large Black community and the possibility for a middle-class life; at Los Alamos, Hanford, or Oak Ridge, they would have had

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<sup>45</sup>Hales 151

<sup>46</sup>Hales 198-9.

<sup>47</sup>Hales 90.

<sup>48</sup>Hales 111, 197.

<sup>49</sup>Hales 200.





none of these. On the whole, the administrators of the Manhattan Project envisioned Black men and women as menial laborers, despite the fact that some Black scientists were doing advanced research in Chicago. Thus, racial ideologies limited the opportunities of African American atomic researchers both at the level of education and at the level of geography.

On August 6, 1945, the Manhattan Project's value to the war effort became clear, as an American bombing crew deployed an atomic bomb over the Japanese city of Hiroshima. The war ended almost immediately. Within two weeks, the African American *Pittsburgh Courier* touted the work of the race on the weapon that won the war. The bomb was not merely a national triumph; it was the result of "able colored men [who] worked side by side in perfect scientific comradeship with white scientists to produce the greatest feat in history."<sup>50</sup> The *Courier's* coverage focused on individuals, particularly their educational careers, but also detailed their street addresses and information about their wives and children. Its description of Benjamin Scott was typical; he was 22 and had attended Morehouse College. Originally from South Carolina, he had joined the atomic bomb project while working on his master's degree at the University of Chicago; his wife, Joyce Sampson Scott, had given birth to their first son just three weeks before.<sup>51</sup> Such images were not only meant for human interest, but also to demonstrate that the Black scientists working on the atomic war effort were real people living in the Chicago community.

Despite the numerous factors working against their achievement, a few African Americans participated in atomic science during and after the war. They owed their careers to their own personal intellect and determination but also to the resources of their families, teachers, and communities. They began their professional lives at a time

<sup>50</sup>George S. Schuyler, "Dr. William J. Knox Headed Group at Columbia University", *Pittsburgh Courier*, August 18, 1945, 1, 5.

<sup>51</sup>Schuyler 5.



of unique potential, when a growing white-dominated scientific establishment needed qualified personnel and was willing to hire across the color line. Their stories have survived because the African American press was hungry for material about economically successful, educated Black men and women. Black atomic researchers made ideal material for journalists during a time when fears and hopes about nuclear science pervaded American culture.

Nationwide, prevailing attitudes about the atomic bomb were highly conflicted; American scientists had won the war, but they had unleashed a powerful new force with the potential for great destruction. A key source for American images of science was *Popular Science Monthly* magazine, which had a circulation of one million.<sup>52</sup> Rather than trumpeting narrow national interest, the magazine upheld the importance of a transnational scientific research culture. When American military authorities destroyed Japanese cyclotrons to forestall nuclear research in that country, an editorial strongly condemned the action. Science, argued editor Perry Githens, transcended national boundaries by its very nature. Its importance was too great to suffer interruptions by petty American military officials, and even such ignorant blunders would not hinder science's inevitable progress. Using the language of scientific triumphalism, Githens claimed that "science as truth, science as the human thrust from the unknown dark into the light of knowledge, cannot be destroyed unless man himself is destroyed." Moreover, scientists were the priests of these new atomic truths; they had "freed man from the shackles of space and time and matter", and eventually they could "lead man to that knowledge of himself which he needs to live in dignity—and to survive."<sup>53</sup> As *Popular Science* presented science, the discipline was not only a method for the pursuit of empirical knowledge, but also a tool for "liv[ing] in dignity." In the hands of the Black press,

<sup>52</sup>"For Men Only", *Time* May 12, 1947, 83.

<sup>53</sup>Perry Githens, "You Can't Smash Science With Sledges," *Popular Science Monthly*, January 1946, 7.



the language of scientific dignity would assume meanings unforeseen by the magazine's editors—that of equal racial opportunities in employment and housing.

At the same time that *Popular Science* promoted the ultimate victory of science over ignorance, scientists assumed a much more visible role in American society. At first, this visibility was primarily in terms of atomic policy. The magazine publicized the new Federation of the Atomic Scientists (FAS), which advocated international control of nuclear resources.<sup>54</sup> In an editorial of March 1946, the magazine presented them as “honest and earnest men [who] are schooling scientists in the hard new truths of science which have suddenly been superimposed on politics.”<sup>55</sup> Above the editorial, the magazine ran a publicity photo of the organization's leaders, all distinguished white men in suits—exactly the sort of men who could be trusted with national nuclear policies.<sup>56</sup> Although the efforts of the FAS eventually came to naught in the political arena, the organization was critical in shaping public images of atomic scientists. Over time, scientists and engineers gained cultural power as the masterminds behind America's Cold War technologies, from increasingly mechanized factories to labor-saving household appliances. Images of these technical wizards, always white men, reflected the country's systematic economic and educational racism.<sup>57</sup>

In the years immediately after the war, trained scientific researchers of any color were exceedingly rare, a fact of some concern to government policymakers. Their published reports revealed a new focus on science education. Vannevar Bush, head of the federal Office of Scientific Research and Development, argued that “in peace or war

<sup>54</sup>On the FAS and the Met Lab, see Holl 36-7.

<sup>55</sup>Perry Githens, “The Scientist Meets the People”, *Popular Science Monthly*, March 1946, 7.

<sup>56</sup>For more on the FAS, see Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon Books, 1985), 49-106. For a more recent examination of the FAS's political failures in the light of the Cold War, see Jessica Wang, *American Science in an Age of Anxiety: Scientists, Anticommunism, and the Cold War* (Chapel Hill: University of North Carolina Press, 1999).

<sup>57</sup>Even if there had been more Black scientists involved in atomic science, American racial ideologies did not allow for the possibility of Black men as intellectual heroes and wise policymakers.



the handicap [of poor science education] might prove fatal to our standards and our way of life.”<sup>58</sup> Drawing on work by the American Association for the Advancement of Science, *Popular Science* claimed that 150,000 science students had been drafted for wartime service, their scientific education stalled by hamfisted military policies.<sup>59</sup> Illustrated profiles of white GIs accompanied the article, detailing men like Stanley Daly, a 24-year-old Columbia University doctoral student who “lost nearly four years serving in New Guinea.” In 1946, when this article was published, the magazine’s readership would certainly have sympathized. Demographically, editor Perry Githens targeted an average (white) male reader, statistically likely to be a returning GI. Regular features covered not only current scientific research but also do-it-yourself science experiments, auto repair, and home maintenance. Densely-packed advertisements for technical correspondence courses and bodybuilding plans suggested a white working-class readership desperate for career advancement.<sup>60</sup>

Although *Popular Science* described aspiring scientists whose careers were slowed by military service, this trend may have been less relevant for Black scientists. Particularly for African American men, military service was a way to demonstrate one’s fitness for full political and economic citizenship. Thus, although time in the armed forces certainly slowed the graduate education of men like Jasper Jeffries and Virgil Trice, it also provided them with a valuable way to demonstrate their worth to the country. Moreover, both the military and the postwar scientific establishment were strongly hierarchical organizations which required the cooperation of tens of thousands of men. Although the position of African Americans within each was marginal, both systems contained possibilities for transcending the boundaries of mainstream racial ideologies. For African Americans who achieved professional success as researchers, atomic science was not

<sup>58</sup>Leon Shloss, “Lost: A Generation of Scientists,” *Popular Science Monthly*, March 1946, 88-89.

<sup>59</sup>Shloss 88-91.

<sup>60</sup>“For Men Only”, 83.



only a career but also a way to demonstrate their own intellectual equality and value to the nation.

In the postwar period, science was an increasingly corporate activity, a respectable profession as well as a personal calling. The years 1945-50 were the rise of so-called “Big Science,” research corporations and groups which transformed images of science from a solitary pursuit to an increasingly social one.<sup>61</sup> For the African American atomic scientists, the rise of Big Science changed their careers. Most obviously, the Met Lab at the University of Chicago reconfigured itself as a separate entity, the Argonne National Laboratory. Located in suburban Chicago, Argonne employed many of the same researchers who had worked at the Met Lab, but its mission was explicitly nonmilitary. At Argonne, researchers worked on uses of nuclear materials for the life sciences and physical sciences. As such, their work tended to emphasize the positive potential of nuclear science; this was work that, although dangerous, could potentially solve humanity’s problems.<sup>62</sup>

Argonne National Laboratory expanded significantly in the postwar period, though it also experienced staff turnover from the war years. During the period between 1945 and 1960, many of the subjects of this study tended to depart government service for more lucrative jobs in private industry; they also pursued careers as educators in majority-Black institutions. Ralph Gardner, who had joined the Met Lab in 1943, left in 1947. His employment for the next two years is unclear, but in 1949 he joined Standard Oil in Cleveland, where he designed chemical processes for refining gasoline. While working for Standard Oil over the next twenty years, he earned master’s and doctoral

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<sup>61</sup>For example, see David Kaiser, “The Postwar Suburbanization of American Physics,” *American Quarterly* 56:4 (December 2004), 851-888. I am grateful to Deborah Weinstein for bringing this article to my attention.

<sup>62</sup>For more detailed information on nuclear enthusiasm in the postwar period, see Boyer, 107-121. A 1948 Gallup poll cited by Boyer revealed that college-educated Americans were twice as likely as grade-school-educated citizens to see atomic energy in a positive light.



degrees at Western Reserve University, probably at the company's expense.<sup>63</sup> Ernest Wilkins departed for the American Optical Company, where he would work for four years before returning to nuclear projects for private companies.<sup>64</sup>

Those who left Argonne for academic teaching and research gravitated towards historically Black institutions where their race would not be a barrier to professional success. Edwin Roberts Russell, a South Carolina native who had earned a master's degree in chemistry at Howard University before the war, started work at the Met Lab in 1942. By 1947, he was a research group leader at Argonne, when he departed for a professorship at Allen University. He would remain there for six years, when he would take a job as a research chemist with E. I. DuPont, one of the major contractors for government nuclear projects.<sup>65</sup> Physicist and mathematician Jasper Jeffries, who had been at the Met Lab since 1943, returned to his native North Carolina to teach at Agricultural & Technical College in Greensboro. Like Russell, he would work in education for a few years, then migrate to private industry.

At the same time that the wartime atomic scientists were departing, Argonne hired a number of Black men returning from the war. These included engineer Virgil Trice, a Purdue graduate, and chemist Sylvanus Tyler, who had studied at Chicago. Ex-Navy chemist Phillip Sellers joined Argonne in 1945 and apparently remained there for the rest of his career, earning a master's degree from Northwestern University in 1950.<sup>66</sup> George W. Reed, a Washington, D.C. native, had worked for the Met Lab during the war, but in 1947 he departed to complete a doctoral degree in chemistry at the University of Chicago. When he had earned his Ph.D. in 1952, Argonne National Laboratory hired

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<sup>63</sup>Mary Mace Spradling, *In Black and White* (Detroit: Gale Research, 1980), 3rd edition, 347; *American Men & Women of Science* (New York: R. R. Bowker, 1986) 16th ed., vol. 3, 37.

<sup>64</sup>*American Men & Women of Science* (New York: R. R. Bowker, 1998) 20th ed., vol. 7, 760; Kessler et al. 333-34.

<sup>65</sup>*American Men & Women of Science* (New York: R. R. Bowker, 1979) 14th ed., vol. 6, 4357; Sammons 207.

<sup>66</sup>Sammons 211. Biographical sources for Sellers after 1950 are difficult to locate.



him back. Reed and his peers faced significant local geographic obstacles in choosing where to live. Argonne was located twenty miles to the south of the city. Such a location either would have required long commutes via car from the “Black Belt” neighborhoods of Chicago or would have required the scientists and their families to live in the new postwar suburbs, farther from the historic center of the local Black community.

Wherever they might have lived, African American scientists in the postwar period were a new segment of the Black middle class in Chicago. The city’s large communities of color supported a number of Black entrepreneurs, doctors, lawyers, and other professionals.<sup>67</sup> The profession of science, particularly atomic science, offered new career possibilities for the educated Black citizens of Chicago. It allowed Black men to support their families without pursuing factory labor so dirty or dangerous that white men refused to do it. Science could also be a way to challenge prevailing concepts of black manhood. The *Pittsburgh Courier*’s “Your History” illustrated column featured W. Montague Cobb, a medical doctor and faculty member at Howard University whose “voluminous research” had done much to break down “notions of alleged Negro inferiority.”<sup>68</sup> On the same page, editorial writer Joseph D. Bibb offered a critique of systems which allowed only exceptional Black individuals to succeed. “Despite these ‘first and only,’” he wrote, “we are still being thrown the scraps.”<sup>69</sup>

The exact nature of those scraps was clear. Structurally prevented from achieving advanced degrees in large numbers, most of the black workers in atomic fields were not scientists. Instead, they were office workers, as in the Washington, D. C. offices of the new Atomic Energy Commission. In inch-high letters, the *Pittsburgh Courier* announced that “NEGROES GUARD ATOMIC FILES.” “[N]ine carefully selected Negroes,” it said, listing their names, watched over the paperwork of the AEC. Quoting

<sup>67</sup> Arnesen 36-37.

<sup>68</sup> J.A. Rogers and Samuel Milai, “Your History”, *Pittsburgh Courier* , October 18, 1947, 3.

<sup>69</sup> Joseph D. Bibb, “The Only Negro,” *Pittsburgh Courier* , October 18, 1947, 3.





an official, the paper claimed that they were “sole custodians of the world’s top secrets;” moreover, the Commission honored the guards by not racially segregating their locker rooms. This account focused on the extreme secrecy of their jobs, detailing the other black workers who made up approximately ten percent of the AEC staff. Most were supply clerks; of the forty-two, nine were female clerks assigned to perform background checks on potential employees. Most importantly for the author, morale was high at the office “in part . . . [because] race and color are not important factors in . . . a job that requires supreme loyalty and trustworthiness.”<sup>70</sup> Thus, even if Black men and women might be employed in lowly positions, their work with atomic materials could be a way to represent possibilities for racial progress. Because clerical work within the atomic bureaucracy did not require an advanced scientific education, it was more accessible for African Americans than the research positions which relatively few achieved. During the next decade, the African American press would use such accounts to its own advantage in pressing for equal civil rights regardless of color.

At the same time as the civil rights movement grew in strength, scientific literacy acquired new importance. Voters had to be conversant with the dangers and possibilities of atomic science, policymakers argued, and thus science education was vital to American democracy. In 1947, *Popular Science* editor Perry Githens, reporting new statistics about the dearth of skilled high school teachers, lamented that American high schools were “hardly a healthy preparation for citizenship in the atomic age.”<sup>71</sup> Of 120,000 teachers certified given by a group of 18 teachers’ colleges, only 307 were certified to teach science or mathematics. With the postwar economic boom, almost half of all high school teachers had moved into private industry jobs. The result, according to an expert, was that “about 15 to 20 percent [of high school teachers] teach some science, and

<sup>70</sup>Alvin A. Webb, “Negroes Guard Atomic Files,” *Pittsburgh Courier* October 18, 1947 1,4.

<sup>71</sup>Perry Githens, “Who Will Teach Tomorrow’s Voters?,” *Popular Science Monthly*, June 1947, 7.



about one third of these teach some chemistry.”<sup>72</sup> The solution for such ills, Githens claimed, was increased voter participation to fund schools rather than playing fields or war memorials.<sup>73</sup>

The same year, Harvard President James Conant wrote a column for “young men interested in science” which encouraged “general education.” General education, first championed by the Progressive-era General Education Board, was a particular favorite of Conant’s. During his term at Harvard, he spearheaded a revision of that university’s undergraduate curriculum around General Education standards. Math, science, and foreign languages were “not . . . a sufficient educational background for the scientists of a free nation.” A democratic education must also include history, art, literature, and philosophy, so that students might “be concerned, in part at least, with the words ‘right’ and ‘wrong’ in both the ethical and the mathematical sense.”<sup>74</sup> Even as he championed general education to round out the citizenship skills of scientists, Conant’s description of science education for nonscientist citizens was critical. He found in the history of science four critical concepts: the creation of new experimental techniques, evolution of scientific theories, care in interpreting experimental data, and science as a social activity. “Science has always been related to the economic, political, and cultural life of its times,” he declared; his call was for citizens to understand the critical importance of science to current American issues.

Big Science, then, could be a metaphor for democracy in the postwar period. No longer heroic individual citizens working in isolated environments, Americans must band together to accomplish the goals of both scientific progress and democratic gov-

<sup>72</sup>Githens, “Who Will Teach Tomorrow’s Voters?”, 7.

<sup>73</sup>Historian Ronald Tobey has described similar ideas among early 20th century scientists and the failure of those ideas to reach a large number of Americans. See Ronald C. Tobey, *The American Ideology of National Science, 1919-1930* (Pittsburgh: University of Pittsburgh Press, 1971), 167-232. Tobey argues that the early Cold War was a brief moment of unity between American political culture and the culture of professional science, and that by 1960 this unity had dissolved as the Cold War thawed slightly.

<sup>74</sup>James B. Conant, “Educating a Scientist”, *Popular Science Monthly*, May 1947, 88-89.



ernment.<sup>75</sup> The Chicago atomic scientists were intimately affected by these turns. By 1949, atomic science had achieved a high enough profile that *Ebony* magazine could run a major feature article on ten African American “atom scientists” who worked there. “Most Negroes are junior chemists and technicians at the laboratory,” the feature described, not explaining the educational deficits which had led them there. Photographs represented the seven men and three women in lab coats or professional attire, working with scientific apparatus and complicated equations. A headline noted that they were “help[ing] in [the] race to harness atomic materials for peaceful uses.”<sup>76</sup>

Of the seven men pictured, only medical student Herschel D. Wallace was a biologist by training. Sylvanus Tyler used his mathematical skills for “planning experiments efficiently.” Chemist Lloyd Quarterman, a veteran of the Manhattan Project, was still at the lab, as was Harold Evans. Technician Robert Pairs, who had been hired sometime in 1943, assembled circuits. Phillip Sellers tested radioactive compounds for use in treating cancer. Virgil Trice built pilot plants as part of the lab’s nuclear reactor research. *Ebony* emphasized the unusually dangerous nature of atomic work; workers could not eat in the laboratories for fear of ingesting trace amounts of radioactive chemicals.<sup>77</sup> In one way, the potentially dangerous work of atomic science was not unlike the hot, dangerous industrial labor Black men performed at steel mills. Unlike blast furnaces, atomic science had about it an aura of intellectual prestige and middle-class professionalism that made it attractive to aspiring Black Americans.

Women featured unusually prominently in the *Ebony* article, despite their general invisibility in published accounts of Black scientists. Ella Tyree, a Spelman-trained biologist, had been promoted from managing the laboratory’s experimental animals to injecting them with radioactive solutions to determine “the effects of radiation on hu-

<sup>75</sup>I am influenced here by Rebecca Herzig’s work on images of scientific self-sacrifice, particularly a talk given at Brandeis in March 2004.

<sup>76</sup>“Atom Scientists”, *Ebony* September 1949, 26.

<sup>77</sup>“Atom Scientists”, 26-28.



mans.” Blanche Lawrence, pictured examining a solution in a test tube, was a Tuskegee graduate and the widow of a military pilot. In her four years at the lab, she had been promoted from a technician to “junior biochemist.”<sup>78</sup> Cynthia Hall, a technician, had once worked in a morgue but was now testing chemical solutions for radiation.<sup>79</sup> Hall’s job was a step up from a distasteful job to a respected scientific position. In a later story, *Ebony* would show two African American women, Genevieve Dixon and Mamie B. Johnson, who worked as “computers” for aircraft firms in Buffalo, New York. The magazine represented them as “mathematicians,” not mentioning that the pink-collar job entailed minimal independence and hours of monotonous paperwork.<sup>80</sup> “Computer” was not a research position, but the scientific equivalent of menial labor. Based on these sources, it is reasonable to assume that northern Black women as scientific assistants and clerks may have been more common than written records suggest. Restricted both by racial and gender ideologies from rising very high in scientific professions, educated Black women like Ella Tyree could nonetheless work in the lower levels of Big Science.

On one hand, “Negro” men and women were working at many different levels of Argonne; on the other, they were only rarely leaders of research groups. Aside from noting that Evans was the “highest-ranking Negro scientist”, the magazine focused attention away from their junior status.<sup>81</sup> Their professional lives were, as usual, highly constrained by geography; they could not travel to the more racially-segregated atomic research sites without difficulty. The optimistic editors of *Ebony* noted none of this, preferring a positive tone of racial progress. In contrast, the *Pittsburgh Courier* was much more forward. “Oak Ridge Snubs Our Scientists,” the *Courier* exclaimed, describing the Atomic Energy Commission’s summer research program for university professors. Of 75 scientists brought to Oak Ridge in the summer of 1950, all were white, and none

<sup>78</sup>“Atom Scientists”, 26.

<sup>79</sup>“Atom Scientists”, 26-28.

<sup>80</sup>“More Than 200 Negroes Hold Key Scientific Jobs in Industry,” *Ebony*, September 1950, 15.

<sup>81</sup>“Atom Scientists”, 27.



were faculty at a historically Black institution. The AEC ran several other summer research programs that summer as well, all exclusively white. Thus, wrote the anonymous writer, “Negroes once again are facing the blights of Jim Crow . . . sponsored—as in the past—by the U. S. Government itself here at Oak Ridge.”<sup>82</sup>

Even after such press coverage of government atomic science, *Ebony* continued to present optimistic images of African American success in scientific professions. Detailing “more than 200 Negroes [who] hold key scientific jobs in industry,” the magazine illustrated a number of men and women at their jobs, mostly employed at industrial concerns in the upper Midwest. It presented a progressive narrative of African American employment, detailing career problems in science as a thing of the past. “The war, FEPC, the Urban League, and a shortage of competent scientists” bore the credit for African American employment in scientific fields, but the very nature of science was critical. Describing the “almost overnight integration of Negroes into many plants,” the editors claimed that “test tubes and cyclotrons recognize no color line.”<sup>83</sup> The color line was common enough in industrial settings, of course, where many workplaces were dominated by white-controlled unions who maintained strict racial divisions of labor. It is possible that scientific research, as a new kind of career, was less unionized than older industrial specialties. The newness of the field, rather than its intrinsic qualities, may have contributed to certain kinds of egalitarianism in the workplace. To *Ebony*’s editors, scientific meritocracy was the logical explanation; professional researchers respected intellect above skin color. Science, the magazine suggested, had a unique potential among the professions for giving qualified Black intellectuals the recognition they deserved.

At the same time that it described their career achievements, *Ebony* detailed their professional difficulties. One 1942 Purdue engineering graduate described how his

<sup>82</sup>“Oak Ridge Snubs Our Scientists,” *Pittsburgh Courier* July 1, 1950, 1,4.

<sup>83</sup>“More than 200 Negroes hold key scientific jobs in industry,” *Ebony*, September 1950, 15.



white classmates were all recruited by leading firms; he was the only one without a job at graduation. An industrial engineer working at an Air Force laboratory in New Jersey had been turned down repeatedly by private firms, who sent letters informing him that he was “too well-qualified for the jobs presently available.”<sup>84</sup> This page was the last of the four-page pictorial, however; it presented discrimination in scientific employment as a thing of the past, overcome by the modern world. Thus, although scientific employment for Black professionals was often racially discriminatory, the editors mobilized the language of scientific progress to represent a better world.<sup>85</sup>

The African American press of the early 1950s used images of science in two different ways: to critique segregated educational opportunities and to demonstrate the progress and potential of Black men and women as American citizens. In a time when scientific progress became wedded to Cold War success, “race” periodicals could use images of Black scientists to represent the citizenship potential of its entire readership. Thus, *Jet* displayed the 1953 election of Black chemist Albert Stewart to the Oak Ridge town council. Stewart, the first Black Ph.D. to work at the Oak Ridge nuclear facilities, demonstrated how much the Tennessee town had changed since the beginnings of nuclear research there.<sup>86</sup> In an at-large election for sixteen council seats, Stewart placed second.<sup>87</sup> The town which had once featured a neighborhood called “Negro Village” had, with the influence of federally-administered nuclear science, made progress. This progress came at a cost, however—the danger of living in the atomic age.

The ambiguities of atomic science for African Americans were most clear in *Ebony*’s 1955 feature about Los Alamos chemist George L. Johnson and his family. In it, the

<sup>84</sup>“Many scientists still find bias bars the way to decent jobs,” *Ebony*, September 1950, 20.

<sup>85</sup>For a more detailed listing of the achievements of Black Ph.D. scientists in all fields in the early 20th century, see Herman Branson, “The Negro and Scientific Research,” *Negro History Bulletin*, April 1952, 131-36, 151ff.

<sup>86</sup>Sammons 222.

<sup>87</sup>“Elect A-Bomb Chemist to Oak Ridge Council”, *Jet*, September 24, 1953, 8. It is not clear how much governmental authority the council had.



magazine coupled atomic-era fears with images of a progressive, racially integrated scientific present. On the first page, a checkpoint and guard tower loomed over Johnson's late-model car as a respectful white guard examined the scientist's credentials. Even as the headline warned of the "Secret City of Sudden Death," the article described the "carefully-planned, fully-modern community which could well be called the ideal place to live—except for one thing." Nuclear research and its dangerous materials were "a threat that must constantly be guarded against." Pictures of Johnson in his laboratory showed the scientist testing waste materials for radioactive contamination, and text represented Johnson as one of the critical men preserving the "air, drinking water, and food supplies" against deadly radiation.<sup>88</sup>

Despite such dangers, Johnson was overwhelmingly positive about the town itself, which the editors claimed was "a community unlike anything he has known on the outside." The exoticism of Los Alamos was not only in its atomic secrecy, but also in the fact of "absolutely no racial discrimination" in public establishments. "Here I never get a chance to think about race because my neighbors don't let me," said Johnson. Accompanying his statements was a picture of Johnson and his wife playing cards at home with a white family, the Lehmans. He located the lack of discrimination in white townspeople's occupations; "being scientific people mostly, they are informed enough to accept me as another man." The article quoted Johnson's supervisor, who said that "we couldn't want a better man for the job."<sup>89</sup> He was the only African American scientist then at Los Alamos; the other two Black men in town were guards. Pictorials of the town's "ultra-modern shopping center" and descriptions of the "new medical center and excellent schools" ignored the fact that the town of 13,000 housed only three Black families. Although Los Alamos may have been a "planner's dream," barely one-tenth of

<sup>88</sup>"Secret City of Sudden Death," 57-58.

<sup>89</sup>Such glowing praises came in spite of the fact that Johnson was "totally deaf" because he had contracted meningitis at age 14. For the editors, Johnson's disability was a less significant personal quality than his race.





one percent of its residents were Black.<sup>90</sup> *Ebony's* presentation of the Johnsons at Los Alamos was an idealized image of the modern civic sphere. According to *Ebony*, Los Alamos families were not allowed to own homes in the government town, which irked some residents. Curiously, this regulation prevented one of the leading possibilities for structural inequality. During the same time, Northern cities were well-known for white homeowners' "neighborhood associations" which sought to keep property values high by discouraging blacks from purchasing homes there.<sup>91</sup> At Los Alamos, individual white scientists may have held progressive ideas about African American equality, but federal policies worked more concretely than personal antiracism.

Despite George Johnson's success at securing a scientific job in Los Alamos, he was an anomaly within the larger Black community, which still suffered disproportionately from segregated schools and poor science education. Starting with the 1957 launch of the Soviet *Sputnik* satellite, African American newspapers blamed school segregation for America's scientific lag behind the Soviets. The *Chicago Defender* in particular voiced a pointed racial critique of American science education. Just after *Sputnik's* launch in October 1957, *Defender* columnist Victor Calverton reported for the paper on the College of William and Mary's refusal to admit a black student, claiming that such discrimination was "partly responsible" for the Soviets' superior astronautic achievements.<sup>92</sup> *Defender* columnist Enoc Waters wrote a fictional profile of a would-be Black scientist to illustrate the impact of racial ideologies and economics on American science. This fictional scientist, born in the late 1920s in small-town Mississippi, was precocious as a child, but his sharecropper father's landlord insisted on

<sup>90</sup>I base this estimate on an assumption that the three families mentioned in the *Ebony* articles were the only African Americans in town. Assuming that each family contained two adults and one or more children, Black residents of Los Alamos numbered somewhere around one tenth of one percent.

<sup>91</sup>For an example from Detroit, see Thomas J. Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton: Princeton University Press, 1996), 209-258.

<sup>92</sup>Victor Calverton, "Blames Race Prejudice for U. S. Scientific Lag," *Chicago Defender*, November 9, 1957, 2.



his value as a laborer. Having learned all he could at a “delapidated, one room, rural, [J]im [C]row school,” he lacked the transportation to attend “the consolidated school 20 miles away.” Drafted into the Army at 18, segregation policies limited this budding physicist-mathematician to driving trucks. When he returned, his lack of secondary-school education prevented him from using the GI Bill to attend college, and he used his mathematical skills not for national defense, but to stretch a sharecropper’s meager budget to cover his family’s needs. “Know who he is? He is the man who if properly trained could have helped the United States to fling its artificial moon into space before Russia launched Sputnik I.”<sup>93</sup> Waters’ fictional scientist illustrated an alternate life path for men like Benjamin Scott, Moddie Taylor, and other men of their generation. Had they not migrated to larger cities, where education was more available, their atomic science would never have happened.

Similarly, columnist Louis Martin claimed that “there [was] glee in the ghetto” when a United States attempt to launch a satellite failed late in 1957. Describing an oppositional strain of Black thought rooted in “being jim-crowed into a blind alley . . . and kept on the sidelines of the society,” Martin claimed that discontented people of color had every reason to feel satisfied at watching a “vain, arrogant, pompous bully” be “disgraced.” He disavowed any Communist sympathies, expressing a belief in capitalism as an economic system. At the same time, he wrote that his complaints came from a desire for “first-class citizenship here in this democracy.” He welcomed science as a way to force the issue of racial equality. Because scientific achievements relied directly on education, Martin saw the space race as almost fortunate. “If we can’t be free here,” he closed, “soon we may be able to try the moon.”<sup>94</sup>

This Black critique of early Cold War science education adds a new element to histories of civil rights which have seen school integration partially as an anti-Soviet political

<sup>93</sup>Enoc P. Waters, Jr., “He Could Have Been,” *Chicago Defender*, November 16, 1957, 10.

<sup>94</sup>Louis Martin, “Dope and Data,” *Chicago Defender*, December 21, 1957, 10.



move.<sup>95</sup> Segregated schools produced notably low numbers of scientists, whose work was vital within the space race and the Cold War. By abolishing segregated schools, the 1954 *Brown v. Board* Supreme Court decision widened the possibilities for equal scientific education of all Americans. The 1958 passage of the National Defense Education Act thus funded science education for all Americans, not just whites.<sup>96</sup> At the same time, the politically powerful Chicago Black community did not wait for government action. Former Manhattan Project scientist J. Ernest Wilkins, Jr., worked with the Urban League to establish a science recruitment program for African American scientists.<sup>97</sup> Wilkins, who would work in private industry until 1965, would eventually join the faculty of Howard University. His Manhattan Project colleague, Lloyd Quarterman, would do likewise. In 1968, Ralph Gardner would leave Standard Oil to join the chemistry faculty of Cleveland State University, where he would work for the rest of his career.<sup>98</sup>

Science education after *Brown v. Board* continued to capture the energies of the Manhattan Project's African American veterans. Many left federal employment to teach at historically Black colleges and universities, given the relative difficulty of gaining tenure at white-dominated institutions. Moreover, teaching at historically Black institutions enabled them to encourage a new generation of scientists of color. The rest used their work on federal atomic projects as springboards to personal financial stability, whether in private industry or in federal agencies. Virgil Trice, who joined Argonne National Laboratory in 1945, eventually worked for the Energy Research and Development Agency (later the United States Department of Energy), specializing in nuclear waste

<sup>95</sup>See for example Mary L. Dudziak, *Cold War Civil Rights: Race and the Image of American Democracy* (Princeton: Princeton University Press, 2000).

<sup>96</sup>For more on the NDEA, see Barbara Barksdale Clowse, *Brainpower for the Cold War* (Westport, Connecticut: Greenwood Press, 1981). For an account which focuses on African Americans, see Wharton 93-96.

<sup>97</sup>"Science Education for Negroes," *Science*, 128:3318 (August 1, 1958), 241-2

<sup>98</sup>*American Men & Women of Science* (New York: R. R. Bowker, 1986) 16th ed., vol. 3, 37.



disposal processes.<sup>99</sup> After working in Black higher education and in private industry, Jasper Jeffries returned to academia, serving as a department chair at Westchester (New York) Community College from 1963 to 1971.<sup>100</sup>

Among his peers, Ernest Wilkins was unusual for his prolific academic publishing record. In contrast, those who chose to educate the next generation of Black scientists sacrificed their own time for research and publication.<sup>101</sup> Such reduced research careers, which lowered their professional reputation among white scientists, have contributed to these individuals' unremarked status in the historical record. Despite their personal obscurity, the African American atomic scientists of the 1940s and 1950s joined ideas of scientific progress to those of racial uplift, asserting alternate narratives of scientific democracy. In the face of racial ideologies which kept most Black Americans under-educated and poorly paid for hard labor, they earned a living with their mental skills. Those who became educators later in life demonstrated a commitment to passing on the same educational opportunities they had experienced. Their lives as scientists demonstrated the possibilities of a future America in which race was not a determining factor for educational opportunity, financial well-being, or political power. Thus, in pursuing research as a career, the first Black atomic scientists negotiated institutional racism and crafted new meanings for African American citizenship in the mid-20th century.

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<sup>99</sup>*American Men & Women of Science* (New York: R. R. Bowker, 1996) 19th ed., vol. 7, 231; Hattie Carwell, *Blacks in Science: Astrophysicist to Zoologist* (Smithtown, NY: Exposition Press, 1977), 66.

<sup>100</sup>*American Men & Women of Science* (New York: R. R. Bowker, 1972) 12th ed., vol. 3, 3021.

<sup>101</sup>For an overview of these trends in the 20th century, see Willie Pearson, Jr. and H. Kenneth Bechtel, *Blacks, Science, and American Education* (New Brunswick, N.J.: Rutgers University Press, 1989), 1-20.

