THE UNSUNG AFRICAN AMERICAN SCIENTISTS OF THE MANHATTAN PROJECT

AT LEAST 12 AFRICAN-AMERICAN CHEMISTS AND PHYSICISTS WORKED AS PRIMARY RESEARCHERS ON THE TEAM THAT DEVELOPED THE TECHNOLOGY TO PRODUCE THE ATOM BOMB.

422

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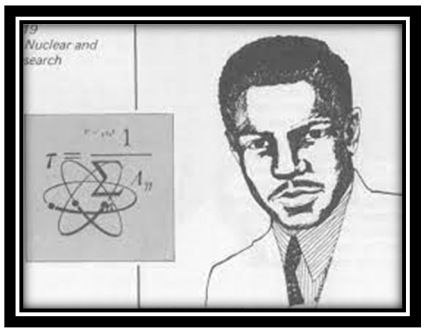
During the height of World War II between 1942 and 1945, the U.S. government's top-secret program to build an atomic bomb, code-named the Manhattan Project, *cumulatively employed some 600,000 people*, including scientists, technicians, janitors, engineers, chemists, maids and day laborers. While rarely acknowledged, African American men and women were among them—their ranks bolstered by greater wartime employment opportunities and President Franklin D. Roosevelt's Executive Order 8802 of 1941 outlawing racial discrimination in the defense industries.

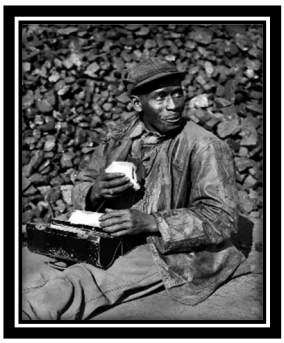


At the project's rural production sites in Oak Ridge, Tennessee and Hanford, Washington, Black workers were relegated to mostly menial jobs like janitors, cooks and laborers, regardless of education or experience. But in the project's urban research centers—the Chicago Metallurgical Laboratory and at Columbia University in New York—several Black scientists were able to play key roles in the development of the two atomic bombs that were released on Hiroshima and Nagasaki in August 1945, effectively ending the war. According to the Atomic Heritage Foundation, at least 12 Black chemists and physicists participated in primary research at the Metallurgical lab, a small fraction of the more than 400 scientists, technicians and laboratory staff members tasked with designing a method of plutonium production that could fuel a nuclear reaction.

Chemist Benjamin Scott, who worked in the Chicago Met Lab, described the atomic bomb project to the *Chicago Daily Tribune* as a *"not only a successful experiment in physical science, but also in sociology," adding that white people working on the project had maintained a spirit of fair play.*

Arthur Compton, the Manhattan Project director in Chicago and a Nobel Prize winner in physics, said the project was unique in bringing together "colored and white, Christian and Jew" for a common cause. Yet beyond Compton's lab and the Columbia University site, opportunities for Black scientists on the project were often limited by racism.

DECENT PAY – SEGREGATED FACILITIES



Coal worker in Oak Ridge coal yard in Tennessee, 1945. The town of Oak Ridge was built by the Army Corps of Engineers on isolated farmland in 1942 as part of the Manhattan Project.

Situated in the South, where Jim Crow segregation was in full force during the war, the rural community of Oak Ridge ballooned as the Manhattan Project production facility grew. Black workers, drawn to the high pay and free housing advertised at the site*, filled menial roles in the Tennessee site, only to be housed in groups of five or six in hutments, 16 x 16-foot plywood structures that had shutter windows, one stove and no plumbing. Women were segregated from men, even if they were married.* "There are few other areas of the South where the plight of Negros, as compared with that of their white neighbors, is as wretched as it is here," reported Enoc Waters, a columnist for the *Chicago Defender.*

At the Hanford, Washington site, where the plutonium was produced to build the first atomic bomb, Black workers faced similar discrimination. *They lived in inferior living conditions and were refused service at many stores and restaurants*. Lula Mae Little, who had migrated from the Midwest and South to the Eastern Washington desert with thousands of other African Americans in search of better wages, referred to Hanford as the "Mississippi of the North."

J. ERNEST WILKINS AND OTHER BLACK SCIENTISTS

J. Ernest Wilkins Jr., who received a Ph.D. in mathematics from the University of Chicago as a 19-year-old in 1942

In 1944, a 21-year-old African American mathematician named Ernest Wilkins joined the team at the Metallurgical Laboratory.

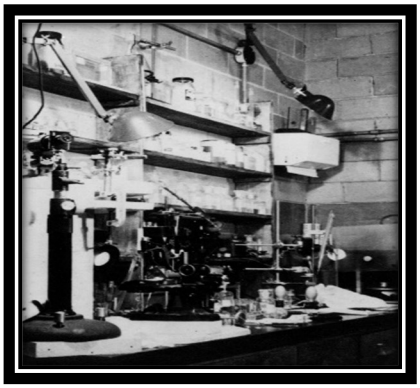
A child prodigy who had entered the University of Chicago at the age of 13, Wilkins earned his *bachelor's, master's and Ph.D. degrees in six years*—becoming, at the time, one of the one half of 1 percent of Black men in America with Ph.Ds. *Yet after graduation he received no job offers* from any major research institutions; he taught at the Tuskegee Institute before being recruited to work on the Manhattan Project.

At the Metallurgical Laboratory, Wilkins researched neutron energy, reactor physics and engineering with two prominent European-born scientists, Enrico Fermi and Leo Szilard. Together they did groundbreaking work in the movement of subatomic particles. But when his team was transferred in 1944 to Oak Ridge, Tennessee, a Manhattan Project site where the X-10 Graphite Reactor was being built, Wilkins was left behind because he was black.

Edward Teller, a scientist at the Columbia University complex, wrote to the War Research department in an attempt to recruit him to the work in New York. "He is a colored man and since Wigner's group is moving to (Oak Ridge) it is not possible for him to continue work with that group. I think that it might be a good idea to secure his services for our work," Teller said. He did not go to New York.

Black scientists at the Metallurgical Lab and Columbia University included, among others: Edwin R. Russell, a research chemist focused on isolating and extracting plutonium-239 from uranium; Moddie Taylor, a chemist who analyzed the chemical properties of rare earth metals; Ralph Gardner-Chavis, a chemist who, along with Wilkins, worked closely with Enrico Fermi; George Warren Reed, who researched fission yields of uranium and thorium; Lloyd Quarterman, a chemist who worked on distilling Uranium-235; the Harvard-educated brothers Lawrence and William Knox, chemists who researched the effects of the bomb and separation of the uranium isotope, respectively; chemists Harold Delaney and Benjamin Scott and physicist Jasper Jeffries.

ADVOCATING PEACEFUL USE OF THE ATOMIC BOMB



The Metallurgical Laboratory in Chicago, Illinois was the first lab set up for the study of pure plutonium. Photo taken in 1942.

THE NATIONAL ARCHIVES

Wilkins and Jeffries were two *of 70 Manhattan Project scientists who signed a petition urging* President Harry S. Truman not to use the atomic bomb on Japan without first demonstrating its power and giving Japan the option to surrender. ***But Truman never saw the petition,*** *which didn't become widely known until it was declassified in 1961.*

At the Met Lab, Wilkins and Jeffries had joined the Atomic Scientists of Chicago, which was founded in 1945 to address the moral and social responsibilities of scientists regarding the use of the atomic bomb.

In 1947, Jeffries gave a speech to the American Veterans Committee, urging for the peaceful use of the atomic bomb. “The best way to assure peaceful uses of atomic energy is to banish war,” he said. Jeffries argued the presence of the atomic bomb necessitated the need for a strong world government and a United Nations that would help moderate the development of atomic weapons in many countries.

A COMMITMENT TO SCIENCE EDUCATION

J. Ernest Wilkins Jr. was honored by the University of Chicago at a special event, March 2, 2007.

After World War II, Wilkins worked for a decade as a mathematician at the United Nuclear Corporation. Later he went on to distinguished professorships at two historically Black colleges, Howard University and Clark Atlanta University, where he retired in 2003. He served as president of the American Nuclear Society from 1974 to 1975. Many of his Black colleagues, including Jeffries, also spent years following World War II at Black colleges, where they nurtured generations of Black scientists. In 1958, at the same time of the passage of the National Defense Education Act, which funded science education for all Americans, Wilkins worked with the National Urban League to establish a program for African American scientists.

When he died in 2011 at the age of 87, Wilkins had authored more than 100 scholarly papers. According to Shane Landrum, a historian of Black atomic scientists, the work of Wilkins and other Black Manhattan Project scientists, along with their white and immigrant colleagues, changed the “course of the war and the role of science in American politics.”

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