More Than a Peanut Inventor:

George Washington Carver and the Natural Environment

Isaac Smith

History

Young George in Nature

George Washington Carver was born in a modest "little one-roomed log shanty" on a Missouri plantation near the close of the Civil War.[1] Carver's exact birth date is unknown, but according to Carver, he was around "two weeks old when the war closed," likely placing his birth in the spring of 1865.[2] Carver's mother, Mary, was the property of Moses Carver, an eccentric bearded German who purchased her as a teenager to labor on his homestead enterprise. Moses was willing to transgress the law and compromise his morals to make his farm successful. He was a Unionist with a principled opposition to slavery but also an opportunist who had acquired his land through squatting and would do anything to see his investment become profitable.

Much less is known about Carver's father, whose historical record remains elusive. That his given name was Giles and that the surname etched into his headstone reads "Carver" are two of the only ironclad details about his life. Carver identifies "Mr. Grant," a man who owned an adjoining field to the Carver homestead, as his father's owner.[3] At some point, Giles met Mary and had four children with her: three girls and one boy. Records list Carver's only brother Jim as mulatto, which means the boys almost certainly had different fathers.

Giles and Mary died before Carver was old enough to remember them. Carver was only an infant when Giles was "killed" while hauling wood to town in an ox wagon.[4] Residents found

Giles crushed “under the wagon, both wheels passing over him.”[5] Whether his death was a tragic mishap or the result of racial violence is lost to history. However, the violent nature of Mary’s death is indisputable.

Carver was only an infant when white terrorists “ku klucked” him, his mother, and his only surviving sister.[6] Moses was able to grab Carver’s half-brother Jim and carry him to the woods to safety, but the others were not as fortunate. The abductors took Mary and her children South to Arkansas, where the morality of slavery was far less in question than in Compromise Missouri. Moses sent his neighbor Bentley to recover the kidnapped Carvers. He gave his neighbor a “very fine race horse and some money” to retrieve them, but Bentley returned only with the frail and sickly infant Carver.[7]

Carver had contracted whooping cough in captivity and was hardly alive when he arrived at the homestead. Carver’s condition did not grow better after his respiratory infection dissipated. Moses and his wife Susan had the wounded baby evaluated by the family doctor. Upon examining Carver, the expert delivered the bleak prognosis that the child would “never live to see the age of 21.”[8] The doctor’s terminal stamp lends credibility to the idea that the raiders physically altered Carver during captivity.

When Carver came of age, his prepubescent voice never left him. He bragged that he could sing up to “high D” well into adulthood.[9] Despite his unbending devotion to the Creator, who commanded his earthly creations to be fruitful and multiply in the book of Genesis, Carver never married or had children. He shied away from identifying romantic interests throughout his hundreds of letters and several essays discussing deeply personal subjects like his family life, religious views, and friendships. Impotence and retention of a prepubescent voice into adulthood are both physiological effects of childhood male castration.

Abnormal skeletal development is another consequence. Writing of his boyhood days, Carver described youth as a "constant warfare between life and death."[9] His "very feeble" physical condition rendered him incapable of assisting Moses and Jim in the field. Instead, Carver aided Susan in the performance of her domestic tasks.[10] He helped her cook, sew, clean, and tend the garden.

Carver spent his leisure time alone with nature, spending "day after day" examining Southern Missouri's rich biodiversity.[11] On his routine adventures through nature, he closely observed regional zinnias, cosmos, celosias, yarrows, and dahlias. Carver developed a secret "little garden" in a brush near the homestead and quickly became emotionally attached to it.[12] Carver valued his "floral beauties" so much that he cried when a flower wilted.[13] His respect for plant life made him meticulous in his treatment of them.

Carver honed his "touch" to become careful and attentive so that his plants would live long and fruitful lives.[14] He devised herbal cures from them that he shared with neighbors who acknowledged his skill and regarded him as their little "plant doctor."[15] Carver had an "equal fascination" for inanimate nature.[16] He snaffled rocks from Moses's chimney and stashed them away in a collection he kept in the old cabin. He might have never taken up such "inordinate" passions had he been physically capable of performing his conventional masculine duties.[17]

Susan and Moses taught George how to read and write, but his intellectual curiosity greatly surpassed what they were able to teach him. Carver remembers that as only a "mere tot," his "very soul" yearned for education.[18] Moses and Susan permitted Carver to travel to Neosho for formal training at Lincoln, the town's colored school. At just ten years old, he took the 8-mile journey to begin his formal education. He squatted in a barn to rest from his trip and was granted residence by the couple who owned it, Andrew and Mariah Watkins. The Watkins epitomized

the *Up From Slavery* success story. Both were born into slavery, Andrew in Virginia and Mariah in North Carolina. The two met and married in St. Louis, moved to Southwestern Missouri, and became one of the first Black families to own property in Neosho.

Carver assisted Mariah with her household responsibilities on the Neosho farm just as he did with Susan at the Diamond homestead. Mariah was a skilled midwife who conferred a great deal of herbal medical wisdom on Carver. Carver appreciated what he learned from Mrs. Watkins but was dissatisfied with the quality of education at Lincoln. After only nine months at the Black primary school, he left Neosho and hitched a ride with a white family on an 80-mile trek to Fort Scott, Kansas.

In Fort Scott, Carver "found employment just as a girl," cooking, crafting, and doing laundry to stay financially afloat.[19] He remained in Fort Scott until racial intimidation drove him away. Carver witnessed a man getting lynched. Carver recounted the incident in a letter to his biographer Rackham Holt. "They lynched a colored man, drug him by our house and dashed his brains out onto the sidewalk."[20] The lynching left a lasting mark on his psyche. As an adult, he confessed that "as young as I was, the horror haunted me and does even now."[21]

Carver left Fort Scott for Olathe and was again taken in by a well-to-do Black couple. He assisted Ben and Lucy Seymour with their laundry business, led Sunday school classes, and attended the town's white public school until the Seymours moved 175 miles west to Minneapolis. George followed the Seymours to Minneapolis, continued his education, and earned his high school diploma seven years later. Carver received a robust education at Minneapolis High School, studying art, arithmetic, science, Greek, and Latin.

After graduating high school, he enrolled in a stenography school in Kansas City. He was offered a position as a typewriter for the Union Telegraph Office but turned it down to pursue

higher education and become an artist. Carver's "thirst for knowledge" compelled him to apply to Kansas's first college, Highland University, which Presbyterians founded in 1858.[22] Highland initially admitted Carver but later revoked his acceptance due to his race.

Carver did not allow the Highland rejection to steer him from his quest for higher learning. After a brief sojourn to Western Kansas to examine yucca and cactus flowers, he headed north to Winterset, Iowa to further his education. Carver found employment as a hotel cook in Winterset. His meager income furnished a humble diet of prayer beef suet and corn meal. Carver's belief in God gave him the strength to endure hard times, and he sang gospel music as therapy. When Carver was only a "mere lad," he encountered the world-renowned Fisk Jubilee Singers.[23] Being raised among mostly whites, the Fisk singers were the first group of Black people he had seen. The singers' spirited style left an indelible mark on Carver, and he emulated their manner in his chorus. Carver mastered the celestial chant of the Black protestant tradition and used it to stir white congregations.

Fellow choir member Helen Milholland and her husband, Dr. John Milholland, were two of his enchanted white listeners. Helen implored her husband to invite the talented youngster to their home for Sunday supper. Carver thrilled the Milhollands with tales from his journey at the dinner table. He informed them of his racially charged Highland rejection and his desire to pursue higher learning in the arts. The Milhollands encouraged him to apply to Simpson College in nearby Indianola.

White Methodists founded Simpson College in 1860 as the Indianola Male and Female Seminary. They established the school with the progressive vision that all capable young men and women deserved education. Unlike Highland, Simpson did not refuse Carver on account of his race. He enrolled at Simpson in 1890 and studied piano, choir, and fine arts. Carver continued

his streak of performing domestic labor to fund his education. He did laundry for his schoolmates to pay his way through. Pride would not allow him to accept money from anyone.

Still, Carver knew he could not survive off corn and beef suet forever. Professor Etta Budd warned him of the financial difficulties of life as a Black artist and strongly encouraged him to take up formal training in a major that would give him consistent employment. Budd recommended that Carver transfer to Iowa State College, where her father, Joseph Lancaster Budd, taught horticulture. After three years at Simpson, Carver left Indianola for Ames to study agricultural science.

He took botany, chemistry, biology, and horticulture courses in Ames and learned from distinguished professors. Dr. Louis H. Pammel was one of Carver's mentors at Iowa State. Pammel conducted research for the U.S. Department of Agriculture and was selected by Governor William L. Harding to chair the Iowa Board of Conservation in 1918. Carver took Pammel's botany course and served as his research assistant. Pammel loved and respected Carver, calling him "the best collector I ever had in the department or have ever known."[24] The two continued to work together after Carver left Iowa. Pammel visited Carver in Tuskegee in 1921 and gave his former student a microscope and several other gifts to show his affection.

James Wilson was another one of Carver's professors. Wilson was one of the most popular professors at Iowa State. He led the Iowa State Agricultural Department in between terms as a Republican delegate in the U.S. House of Representatives and a cabinet member for multiple Presidents. Wilson served 16 consecutive years as the U.S. Secretary of Agriculture under Presidents McKinley, Roosevelt, and Taft. Wilson's 16-year cabinet appointment makes him the longest-serving cabinet member in American history. Carver held a "sacred" affinity for Wilson, whom he regarded as "one of the finest teachers" he had ever studied under.[25] Wilson

encouraged Carver to continue painting. Carver listened, and in 1893, he represented the state of Iowa at the Chicago World's Fair, where his *Yucca and Cactus* painting took home honorable mention.

Wilson was not the only Iowa State scientist appointed U.S. Secretary of Agriculture. The same year Carver gained national fame for giving expert testimony to Congress on a proposed peanut tariff, President Warren G. Harding appointed Henry C. Wallace to his cabinet. Wallace was one of Carver's most cherished professors at Iowa State. When Carver became a professor at Tuskegee, he wrote a sentimental letter to Wallace, thanking him for "being so kind and indulgent to a poor little wayward black boy."[26]

Carver took frequent nature walks through Ames to clear his mind and rest from his studies at Iowa State. Wallace's son Henry Agard often accompanied Carver on his walks. Carver pointed out various plants as they journeyed, tutoring little Henry Agard on the flora they encountered and assuring him that God existed in every cell and fiber of every plant around them. Henry Agard deeply admired Carver and remembered him as "the kindliest, most patient teacher I ever knew."[27] Carver must have known that his pupil was special, but he could not have known that he would go on to serve as the country's 33rd Vice President.

Carver completed his undergraduate study and became an Iowa State faculty member in 1894. Two years later, he became the first African American to attain an M.S. in Agricultural Science at Iowa State. Academic suitors had already knocked at Carver's door before he achieved the degree. Alcorn A&M opened negotiations with him to fill an open professorship during the second year of his graduate study, and he intended to accept the post. It was good fortune that a lecture tour prevented Carver from making the 800-mile trip South to Claiborne County, Mississippi, to confirm the offer. When he returned home to Ames from his lecture tour

in early April, a letter bearing the signature of the most prominent living American Negro awaited his reply.

Carver at Tuskegee: The Feud Within the Feud

While Carver was wrapping up his final year of graduate study in Ames, William Edward Burghardt Du Bois was desperate to divorce himself from an ill-fitting position at Wilberforce University. Financial hardship and an eagerness to begin his academic career charged his hasty decision. Du Bois accepted the position fresh from a Slater Fund-sponsored European tour. He desperately penned applications to several Black colleges and universities to notify them of his availability upon his return to the U.S. in 1894.

Tuskegee was one of several schools he alerted. “President Washington, Sir! May I ask if you have a vacancy in your institution next year?”[28] When the Wizard’s reply furnished his Barrington mailbox on August 25, Du Bois had already accepted an offer to chair the Classics Department at Wilberforce. Still, when Du Bois read Washington’s letter, he must have given its contents considerable thought. “Can give mathematics here if terms suit. Will you accept? Wire answer,” wrote Washington in the diminutive script befitting a remarkably busy man.[29] If Du Bois had delayed his response to Wilberforce as Carver did to Alcorn, Tuskegee might have claimed the nation’s preeminent Black hard and soft scientists.

Du Bois found his brief Wilberforce stint incessantly irksome. His passions were sociology, history, and political economy, not Greek and Latin. A year before his Wilberforce debut, he studied at the University of Berlin under the innovative German political economist Gustav von Schmoller. Schmoller trained Du Bois to research contemporary social problems from the dimensions scholars of their day typically neglected. Schmoller’s investigations made him an indispensable theoretical analyst for the budding German welfare bureaucracy.

In 1896, Samuel McCune Lindsay's invitation to document the condition of Philadelphia's Seventh Ward colored residents rescued Du Bois from his Wilberforce straight jacket. The exciting University of Pennsylvania project allowed him to set Homer aside and conduct original social research. Du Bois traveled over 500 miles to the City of Brotherly Love with his newlywed Nina Gomer to live amongst the subjects of his study. Like Columbia anthropologist Franz Boas, he was, at once, a participant and observer. Du Bois's investigation culminated in his inestimable sociological report, *The Philadelphia Negro*.

His groundbreaking research landed him assignments with the U.S. Bureau of Labor Statistics to conduct similar sociological investigations of Southern Negroes as well as a position at Atlanta University, one of the nation's top-flight Black colleges. President Horace Bumstead had only enlisted Du Bois to build a sociology program for the school, but the Fiskite gave him so much more. In 1903, about a half-decade into his Atlanta tenure, Du Bois published *The Souls of Black Folk* and *The Talented Tenth*. The former is a riveting and heart-tugging collection of groundbreaking essays, and the latter is a stunning empirical defense of liberal arts education against vocationist detractors.

Washington, too, had risen to fame in America's Southern capital. Not long before Du Bois assumed his post at Atlanta University, Washington delivered an address before a racially heterogeneous audience at the Cotton States and International Exposition in Atlanta. Though the speech would later become mired in infamy for its docile approach to segregationist politics, Washington's "Atlanta Compromise" was met with near unanimous support in its moment. Du Bois himself was one of these initial supporters. On September 24, 1895, Du Bois wrote to Washington from his Wilberforce residence to "heartily congratulate" him on a "word fitly spoken."[30] Paradoxically, the most brilliant Negro social scientist applauded the Hampton

graduate when he proudly proclaimed that "in all things that are purely social, we can be as separate as the fingers."[31]

Less than a month after the Atlanta Exposition, Washington received mail from Buzzards Bay, Massachusetts marked with President Grover Cleveland's signature. Cleveland wrote to America's new leading Negro to congratulate him on a speech well given. Cleveland told Washington that he had swelled "new hope" in the breasts of African Americans who would "form new determinations to gain every valuable advantage offered them by their citizenship."[32] By "new hope," Cleveland likely referred to the Black community's collective grief over Frederick Douglass's death in late winter.

Washington's address established him as a Negro Joshua in the eyes of his people. They marked him as the ideal candidate to take on Douglass's mantle and lead the Black masses into the promised land of socioeconomic equality. However, unlike Douglass, Washington urged the Negro to bloom his equality from the Southern soil instead of the municipal ballot box. Washington believed that Southern whites would only extend the franchise to Blacks if they proved themselves as an industrious and business-minded race. Negroes would not win political equality overnight. The practical move was to accommodate.

Washington had been spreading this message to Southern Blacks before bringing it to Atlanta's white mainstream. In his 1894 essay "Taking Advantage of Our Disadvantages," Washington implored Blacks to quiet their "whining" over voting rights and "conquer" the price-depreciated land around them.[33] "Land is cheap all over the South; cheaper now than it will ever be again," the anthropocentric Wizard urged.[34] Washington cluttered the text with outlandish personal anecdotes to defend his argument. "While I write, within a few yards of me, is a large

printing office in charge of a colored man with two Southern white printers under him who work by the side of dozens of colored printers without a word of objection."[35]

In October 1903, Washington defended his vocational focus against Du Bois's attacks in the "Industrial Education for the Negro" address. He continued his streak of using erroneous anecdotes to defend his convictions in the speech. Washington claimed that "in too many cases, the Negro race began development on the wrong end."[36] He alleged that, during the Reconstruction era, more Blacks were trained in "foreign tongues" than in carpentry, blacksmithing, and mechanics.[37] Washington argued that Reconstruction sent Blacks to colleges in droves and dwindled the number of Black farmers.

Du Bois anticipated Washington's defense about a month before he gave it in *The Talented Tenth.* Though Du Bois was an "earnest advocate" of technical training for Black men, he stood boldly on the conviction "that the object of all true education is not to make men carpenters, it is to make carpenters men."[38] Without moral regeneration, cultural discipline, and artistic ingenuity to guide his pursuits, a carpenter would be nothing but a cog in an industrial engine to Du Bois. Instead of training hands, the Negro race would need to train independent minds capable of reaching "the best type of modern European culture" to pull the race from its backwardness.[39]

Black elitism and white paternalism stain *The Talented Tenth.* Still, underneath its haughty liberalism lies pinpoint socioeconomic analysis. Unlike Washington, who blamed the race's "ignorance and lack of skill" for its lowly economic status, Du Bois charged systemic inequality.[40] Rather than denouncing Black educators for poor academic training, Du Bois identified the underlying social causes that produce low educational outcomes. Du Bois credited the inferior quality of Black schools to the programmatic "lack of funds" from discriminatory

state governments that fed Black educators "starvation wages" that hampered Black vocational and higher education institutions alike.[41]

As public criticism of Washington and his accommodationist ideology mounted, Carver remained an ardent adherent to his Principal's politics. To Carver, Du Bois was just a "disappointed misanthrope" who would prod for flaws in even the most sound political program.[42] Carver held Du Bois's fellow American Negro Academy scholar, Paul Laurence Dunbar, in an even lower regard. Dunbar espoused a militant civil rights stance to the left of Du Bois and had been a vocal critic of Washington's politics much earlier than Du Bois. On August 27, 1898, Carver wrote to Washington to encourage him not to allow "articles similar to that of Paul L. Dunbar give you moments of uneasiness."[43] Carver assured his Principal his accommodationism was "the only true solution to this great race problem."[44]

Carver was hardly more than two years into his Tuskegee tenure when he wrote this letter of support to Washington. He had chosen Tuskegee over other options because he felt Tuskegee's curriculum was "the key to unlock the golden door of freedom for our people."[45] Like Bumstead with Du Bois, Washington targeted the choicest Black scholar to run his newly minted Agricultural School. Carver rose to moderate fame after becoming the first Black man to enroll, graduate, and become a faculty member at Iowa State. From his first day at the Institute, Carver enjoyed preferential treatment from Washington. Where faculty members customarily lived two to a room, Tuskegee provided Carver with two rooms, one for himself and another for his plants.

Carver strutted into the rural Alabama campus, convinced that his work would play a significant role in saving the race. He was an eccentric young genius brimming with the off-putting confidence that God had chosen him for this moment. He also expected that the Institute

would afford him every luxury to realize his lofty pursuits. Carver had extremely unrealistic expectations of the Institute's resources. Years of research at a well-funded, predominantly white college left him naive to the material woes of Black academia. He was also unfamiliar with Southern Black culture. He had no experience navigating work relationships in Black spaces, having spent his entire life among whites.

The Black intelligentsia was an exclusive club of Black elites who were educated by paternal white figures at Southern universities. The late 19th and early 20th-century Black intelligentsias ran counter to earlier radical currents that sprang from brush arbors and maroon encampments. The most prestigious Black academies materialized in the Reconstruction South under white abolitionist leadership. Whether they favored an industrial approach, like Hampton and Tuskegee, or a liberal arts approach, like Atlanta, Fisk, and Howard, the archetypal Black academic was a shared constant. The consummate Black professional was lighter skinned, preferably maroon or quadroon, Southern-born, and male.

Carver was a darker-hued Midwesterner with a carefree demeanor. He was spouseless and never intended to take one. He often dressed casually and without regard for respectability. His disregard for the customs of Southern Black elitism alienated him from much of Tuskegee's faculty. Carver wrote an extremely bold letter to the Institute's Finance Committee during his first semester in Tuskegee. The letter is perhaps the most stellar example of his tactless and carefree attitude.

Writing to the people who signed his paychecks, Carver candidly announced, "I do not expect to teach many years, but will quit as soon as I can trust my work to others."[46] After bestowing his knowledge to capable colleagues, he planned to return to his "brushwork."[47] Carver's candidness with the Committee reeked of arrogance and naivety, but it also

demonstrated his eccentricity and conviction to continue with his artistic pursuits despite signing on with a technical college. Carver even dared to couple his early retirement notice with an appeal for additional resources. “While I am with you, please fix me so I may be of as much service to you as possible,” Carver braved.[48]

It did not take long for Carver’s spacey demeanor and unapologetic affinity for the arts to dispel him from Washington’s good graces. Washington was a no-nonsense authoritarian. He was the product of an ill-conceived union between a white man and an enslaved woman. As a child, he labored in a West Virginia coal mine to support himself before enrolling in General Samuel Chapman Armstrong’s militaristic Hampton Institute to receive a rigorous labor-centric education. The austere Principal had no time for Carver’s aloof idealism and eccentric antics.

The eccentricity that repelled several colleagues had the opposite effect on Carver’s students. Carver endearingly referred to his students as his “children” because he loved them with every ounce of his spirit.[49] They loved him back. He received countless letters from former pupils who embodied “The Tuskegee Spirit” that Carver so heavily pressed on them in the classroom. Carver taught his children to create, not replicate. Unlike General Armstrong and his Black disciples, Carver prioritized training the mind over the hands. He rejected Armstrong’s notion that Blacks were best suited to be laborers. Carver wanted Blacks to retire the “old notion of swallowing down other people's ideas” and put the collective Black imagination to work to develop original solutions to solve the Black race’s “specific needs.”[50]

Carver’s pedagogical approach conflicted with the educational method Washington outlined for Tuskegee. In a letter in May 1898, Carver laid out a transformative vision for the Agricultural Department to Washington. “I have been looking forward to a Department second to none in the U.S. in the matters of equipment, methods of teaching and results obtained.”[51] Carver

provided a detailed list of improvements for the Department's farm and barn, but his appeal fell on deaf ears.

He penned another letter to Washington in January 1902, complaining that "many times no attention is paid to my wishes and things passed over my head which work contrary to my efforts to carry out the school's wishes."[52] Washington added George R. Bridgeforth to the Department that same year. Bridgeforth was the first Black man to enroll at the University of Massachusetts Amherst. Like Washington, Bridgeforth was a pragmatist who lusted for administrative power, and he would later replace Carver as head of the Agricultural Department.

Washington was well-versed in removing threats to his educational and political visions for Black people. In 1905, Du Bois launched the Niagara Movement, but it crumbled in 1909, mainly due to Washington. Washington honed his control over the Southern Black press and his relationships with wealthy white philanthropists into a valuable political tool. Du Bois famously referred to Washington's sphere of influence as the "Tuskegee Machine."

Washington sided with Bridgeforth when tensions between him and Carver escalated. Bridgeforth won Washington's ear by sending him letters condemning Carver's handling of the Department's livestock. Bridgeforth's conspiracy worked. He usurped control of the Department's agricultural industries from Carver in 1904, siphoning a third of Carver's hold over the Department. Carver was demoted again in 1907, and Bridgeforth took his place as Director of Agricultural Operations.

Four years later, Carver wrote an emotionally charged letter to Washington. "For 16 years I have worked without a single dollar's increase in salary, yet I have sat quietly and seen others go away above me in my own department."[53] He ended the letter by threatening

Washington with his resignation. “I interpret the above to mean that the school is really tired of my services and wishes me to resign. I see no other alternative. Am I correct?”[54]

Carver remained with Tuskegee despite his tumultuous relationship with his colleagues, but he held a grudge against Washington. The hot frustration in Carver’s breast immediately quieted when Washington died in 1915. The Wizard was only 59 when he passed. Despite their differences, Washington still held a special place in Carver’s heart. Carver had shared many laughs with Washington and his beloved wife Margaret Murray around the dinner table at the Washingtons’ 905 W Montgomery Road residence. A letter written by Carver in February 1916 attests to the love Carver had for his Principal. Carver regretted that Washington had died “never knowing how much I loved him, and the cause for which he gave his life.”[55]

Waste Not, Want Not: Untangling Carver’s Unique Environmental Theory

Carver’s theories, observations, and experiments populate the academic bulletins he composed for the Agricultural School. Across 30 article-length bulletins, the word “waste” and its variants appear at least 35 times. In an 1898 bulletin titled “Feeding Acorns,” Carver scoffs at the “millions of bushels” of acorns Americans waste yearly.[56] Carver borrows figures from Henry P. Armsby’s “splendid book on feeding” to show that acorns are a significantly more fibrous animal feed than corn.[57] Carver notes that the Institute feeds its 400 hogs “solely on acorns and kitchen slops.”[58] Carver’s use of Armsby, who completed his Respiration Calorimeter at Pennsylvania State University the year following Carver’s bulletin, reveals how well Carver kept up with scientific developments in his field.

In his 12th bulletin, “Saving the Plum Crop,” Carver mourns the “many hundreds of bushels of plums that go to waste every year” in Macon County, Alabama.[59] Carver provides his reader with over 40 easy and delicious ways to use excess plums to remedy the waste. Carver

recommends boiling equal parts of "fruit and sugar" for a delightful homemade plum jam.[60] He provides instructions for a similarly tasty oven-baked plum betty. Carver suggests alternating layers of buttered cinnamon breadcrumbs and "very ripe" sliced plums.[61] He includes a plum syrup that becomes a "very refreshing" summertime snack when paired with ice cream or chilled water.[62] Carver's plum shortcake was perhaps his most stunning recipe. The shortcake calls for a "rich" pie crust, peeled and deseeded plums, and an iced topping decorated "artistically" with soft nuts.[63]

He stresses the importance of food preservation in the 1915 bulletin "When, What, and How to Can and Preserve Fruits and Vegetables in the Home." Carver says there is no farming activity "of greater importance than the canning and preserving of fruits and vegetables" in the report and provides season-specific canning instructions for several fruits.[64] Carver published "Three Delicious Meals Every Day For the Farmer" the following year to recommend cheap and nutritional meals made with farm-to-table ingredients for farmers with modest means, citing the adage that "the health and morals of the people depend mainly on the food they eat."[65] Carver provides a substantial number of meals, providing a different menu for breakfast, lunch, and dinner for each day of the week.

Carver saw the scientific method as humanity's lens into understanding God's earthly manifestations. In his essay "How To Search for Truth," Carver writes that nature's specimens comprise "little windows through which God permits me to commune with him."[66] Carver's conception of the environment aligns with Renaissance empiricism. Empiricist philosophy characterizes human knowledge acquisition as an interplay between rational human subjects who employ inherent sensual faculties to perceive, observe, and interpret the material world.

Carver married empiricism with religious sentiment. He found it unfathomable for an "ardent student of nature" to "behold the lilies of the field" and still doubt the existence of God.[67] When Carver looked out on nature, he saw God's essence in every blade of grass and grain of earth. He understood that no matter how much he attempted to uncover nature's secrets, holistic knowledge of a vast and infinite universe would always elude his discerning eye. To Carver, infinite knowledge was reserved only for the immortal. "We are finite…we can only understand the infinite as we loose the finite and take on the infinite."[68]

Society's collective failure to respect and appreciate nature was Carver's "great source of regret."[69] He loved all of God's creations. He had the same affection for Alabama's mighty oak trees that he had for the flowers in his little garden on Uncle Mose's homestead. "We hope the days are not far too distant when the destruction of our valuable oak forests will cease."[70] The word "destroy" appears across Carver's bulletins almost as much as "waste." Carver was as meticulous with the specimens in his lab as he was with flowers as a boy. The visceral feeling he felt when one of God's creations died remained with him as an adult.

There is perhaps no greater example of Carver's resourcefulness than his work with peanuts and sweet potatoes. In 1921, Carver delivered an expert testimony before the House Ways and Means Committee on a proposed peanut tariff. His appearance made him one of the first Black experts to testify before Congress, bringing him national fame. Carver blended expert knowledge with witty humor and dazzled the Congressmen with several peanut-based inventions.

Carver devised that the Southern states had overworked their soil through cotton farming. Cotton cultivation had depleted the soil of its nitrogen content, which was needed, in combination with phosphoric acid and potash, to sprout healthy yields. Carver was more adept

than any other scientist at striking the ideal balance of nitrogen, potash, and phosphoric acid to restore eroded soil. Through experimentation, he demonstrated that Southern-growing legumes, such as peanuts and sweet potatoes, spread nitrogen to the soil through their roots. Carver's innovative method of organic crop rotation combined legumes with nitrogen-depleting crops to prevent soil erosion.

Four years before the testimony, Carver produced a comprehensive bulletin on the peanut titled "How to Grow the Peanut: And 105 Ways to Prepare it for Human Consumption." He concocted hundreds of peanut-based products in his research laboratory and brought dozens of his inventions to D.C. to present to Congress. Carver began his testimony by explaining the untapped potential of legumes to the delegates. He told the Representatives that the peanut and the sweet potato were "two of the greatest products that God had ever given us."[71] Carver maintained that "if all of the other foodstuffs were destroyed," sweet potatoes and peanuts alone could nourish the human body.[72]

Connecticut Representative John Q. Tilson interrupted Carver's legume briefing to insult the scientist. "Do you want a watermelon with that?"[73] Carver was undaunted by Tilson's racially charged mocking. Having dealt with classroom segregation, racial discrimination when applying to college, and overt racial violence, Tilson's crude watermelon joke fell far short of deterring Carver. The scientist took the bigoted remark in stride and hitchlessly carried out the rest of his presentation.

Carver's genius, eloquence, and wit shone through spectacularly. Carver wowed the delegates with peanut hay, peanut meal, peanut hearts, peanut cream, evaporated peanut milk, peanut dyes, peanut fruit punches, peanut oils, and many more peanut-based products he produced in his research lab. The Congressmen were so fascinated by the scientist and his

inventions that they extended the 10-minute testimony far past its deadline. “Go ahead, brother. Your time is unlimited,” Chairman John W. Fordney remarked.[74]

Carver’s peanut milk was particularly intriguing to the delegates. “This one is made especially for ice cream making. It makes the most delicious ice cream that I have ever eaten,” Carver bragged, hoisting up a cloudy sample of fatty peanut milk in his palm for the Representatives to see.[75]

“How does it go in a punch?” New York Democrat John F. Carew asked.[76]

“Well, I will show you some punches,” Carver responded in a fit of laughter.[77] The delegates wondered where the Black gentleman had acquired such intricate knowledge of food science. “Mr. Carver, what school did you attend?” Chairman Fordney inquired.[78] Carver responded by telling Fordney that he studied at Iowa State for several years under Secretary Wilson.

“You doubtless remember Mr. Wilson, who served in the cabinet here so long. Secretary James Wilson. He was my instructor for six years.”[79]

Representative Carew was so thoroughly impressed with Carver’s demonstration that when the scientist finished his presentation, Carew requested that the delegation honor the scientist with their collective acknowledgment. The delegation happily acquiesced to Carew’s request and sent Carver away with a thundering ovation. Chairman Fordney ended the testimony with congratulatory remarks for Carver. “We want to compliment you sir on the way you handled your subject.”[80] Carver had done his race proud.

Carver remained in Tuskegee for the rest of his life. In 1941, Tuskegee erected the George Washington Carver Museum in his honor, and two years later, he died at 78 from a fall in his residence. Carver donated his 60,000-dollar estate (valued at over a million dollars in today’s

currency) to the George Washington Carver Foundation. Henry Ford was a leading contributor to the Museum. Carver had worked with Ford to devise plant-based fuel and rubber alternatives. Ford and Carver's relationship started as a business arrangement but developed into a close personal friendship.

Carver wrote a letter to Ford in September to thank him for installing an elevator in his office. He addressed the letter to Ford, "the greatest of all my inspiring friends."[81] Ford had taken many trips to Tuskegee to visit his ailing friend. The last time Ford traveled to Alabama, Carver was hardly able to stand. Respiratory complications and swollen limbs immobilized him. "The swelling of the feet and ankles has gone almost entirely and I can walk fifty percent better than when you were here."[82] Carver had at least improved to some degree since Ford's most recent visit. The letter he wrote to Ford was the first he had written in almost two years because the swelling in his hands made it nearly impossible for him to write.

Ford knew Carver's health was declining and that the scientist did not have much longer to live. Ford wanted to honor his friend while he was still alive. The business mogul planned Carver's final trip to Dearborn as a tribute to his beloved companion. Ford had a replica of Carver's childhood home constructed in Greenfield Village and had Carver sit to have his portrait painted by Irving Bacon. Carver spent a night in the one-room cabin when he arrived in July.

Life had come full circle for a man who had overcome many obstacles. Like Washington, Carver had made it up from slavery. Like Du Bois, he had become a once-in-a-generation intellectual. Carver successfully imparted his agricultural wisdom to everyday farmers in the South, who now used his organic methods to restore the Southern terrain that he valued so dearly. As he slept in the exact copy of his childhood home, he must have slept soundly,

dreaming of his boyhood days in Diamond, his strolls through Ames, and his work in the Tuskegee gardens, of the time he spent in nature as the Southern sun tanned his handsome face. Carver's moment to "loose" his finite shell, returning it to the earth from which it came, and take on the form of infinity was on the horizon.

Endnotes

[1]George R. Kremer. *George Washington Carver: In His Own Words* (University of Missouri Press, 1987), 23.
[2]Kremer, *In His Own Words*, 20.
[3]Kremer, *In His Own Words*, 23.
[4]Kremer, *In His Own Words*, 20.
[5]Kremer, *In His Own Words*, 23.
[6]Kremer, *In His Own Words*, 23.
[7]Kremer, *In His Own Words*, 22.
[8]Kremer, *In His Own Words*, 21.
[9]Kremer, *In His Own Words*, 45.
[10]Kremer, *In His Own Words*, 20.
[11]Kremer, *In His Own Words*, 20.
[12]Kremer, *In His Own Words*, 20.
[13]Kremer, *In His Own Words*, 20.
[14]Kremer, *In His Own Words*, 20.
[15] Kremer, *In His Own Words*, 20.
[16]Kremer, *In His Own Words*, 23.
[17]Kremer, In His Own Words, 20.
[18]Kremer, *In His Own Words*, 23.
[19]Kremer, *In His Own Words*, 149
[20]Kremer, *In His Own Words*, 21.
[21]Kremer, *In His Own Words*, 21.
[22]Kremer, *In His Own Words*, 21.
[23] Kremer, *In His Own Words*, 149.
[24]Kremer, *In His Own Words*, 48.
[25]Kremer, *In His Own Words*, 51.
[26]Kremer, *In His Own Words*, 59.
[27]Kremer, *In His Own Words*, 59.
[28]Thomas Aiello. *The Battle for the Souls of Black Folk: W.E.B Du Bois, Booker T. Washington, and the Debate That Shaped the Course of Civil Rights*, (Praeger, 2016), 81.
[29]Aiello, *The Battle for the Souls of Black Folk,* 82.
[30]Aiello, *Souls of Black Folk,* 100.
[31]Aiello, *Souls of Black Folk, 80*.
[32]Aiello, *Souls of Black Folk,* 92.
[33]Aiello, *Souls of Black Folk*, 78.
[34]Aiello, *Souls of Black Folk*, 78.
[35]Aiello, *Souls of Black Folk*, 78.
[36]Booker T. Washington, "Industrial Education for the Negro," October 1, 1903, From Teaching History, https://teachingamericanhistory.org/document/industrial-education-for-the-negro/.
[37]Booker T. Washington, "Industrial Education for the Negro."
[38]Aiello, *Souls of Black Folk*, 337.
[39]Aiello, *Souls of Black Folk*, 332.
[40]Washington, "Industrial Education for the Negro."
[41]W.E.B Du Bois, "The Talented Tenth," 1903, From Teaching American History, https://teachingamericanhistory.org/document/the-talented-tenth/.
[42] Kremer, *In His Own Words*, 166.
[43] Kremer, *In His Own Words*, 152.
[44] Kremer, *In His Own Words*, 152.
[45] Kremer, *In His Own Words*, 62.
[46]Kremer, *In His Own Words*, 64.
[47]Kremer, *In His Own Words*, 64.
[48] Kremer, *In His Own Words*, 65.
[49]Kremer, *In His Own Words*, 85.
[50]Kremer, *In His Own Words*, 84.

[51]Kremer, *In His Own Words*, 66.
[52]Kremer, *In His Own Words*, 68.
[53]Kremer, *In His Own Words*, 76.
[54]Kremer, *In His Own Words*, 77.
[55]Kremer, *In His Own Words*, 78.
[56]George Wahington Carver, *George Washington Carver Works*: *All Bulletins and Thesis*, (Kindle, 2020), 10-12.
[57]Carver, *George Washington Carver Works*, 12.
[58]Carver, *George Washington Carver Works*, 12.
[59]Carver, *George Washington Carver Works*, 122.
[60]Carver, *George Washington Carver Works*, 123.
[61]Carver, *George Washington Carver Works*, 518.
[62]Carver, *George Washington Carver Works*, 513.
[63]Carver, *George Washington Carver Works*, 519.
[64]Carver, *George Washington Carver Works*, 400.
[65]Carver, *George Washington Carver Works*, 486.
[66]Carver, *George Washington Carver Works*, 143.
[67]Carver, *George Washington Carver Works*, 143.
[68]Carver, *George Washington Carver Works*, 135.
[69]Carver, *George Washington Carver Works*, 175.
[70]Carver, *George Washington Carver Works*, 15.
[71]Kremer, *In His Own Words*, 104.
[72]Kremer, *In His Own Words*, 104.
[73]Kremer, *In His Own Words*, 104.
[74]Kremer, *In His Own Words*, 107.
[75]Kremer, *In His Own Words*, 108.
[76]Kremer, *In His Own Words*, 108.
[77]Kremer, *In His Own Words*, 108.
[78]Kremer, *In His Own Words*, 112.
[79]Kremer, *In His Own Words*, 112.
[80]Kremer, *In His Own Words*, 112.
[81]Kremer, *In His Own Words*, 161.
[82]Kremer, *In His Own Words*, 161.

References

Aiello, Thomas. *The Battle for the Souls of Black Folk: W.E.B Du Bois, Booker T. Washington, and the Debate that Shaped the Course of Civil Rights. (*Praeger, 2016).

Carver, George W. *George Washington Carver Works: All Bulletins and Thesis*. (Kindle, 2020).

Du Bois, W.E.B. "The Talented Tenth." 1903. From Teaching American History. https://teachingamericanhistory.org/document/the-talented-tenth/

Kremer, George R. *George Washington Carver: In His Own Words.* (University of Missouri Press, 1987).

Washington, Booker T. "Industrial Education for the Negro." October 1, 1903. From Teaching American History. https://teachingamericanhistory.org/document/industrial-education-for-the-negro/.