

Percy Lavon Julian: A man who rose to every occasion

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Our people will never have a future in America if our college-trained men and women do not make friends of the white man. I can conceive of no better way of making friends than the studying together, living together, doing sports together, and enjoying the feeling of belonging to one college family.

– James Sumner Julian, Percy Julian's father, to Percy, ca. summer 1916 upon James Julian's decision that young Percy would attend DePauw University, a primarily White institution (1)

The grandson of slaves, Percy Lavon Julian (1899–1975) was the first Black chemist and the second Black member to be elected to the National Academy of Sciences (NAS). There are at least 60 biographies of Julian, including entries on the websites of the US Patent and Trademark Office and Harvard University, a 44-page NAS memoir published in 1980 (2), a 2-hour NOVA film, *Forgotten Genius*, and even a children's book on Julian (3). What more is there to learn about Julian (Fig. 1)?

Julian, like all of us, faced many obstacles in his life. As a role model, Julian's response to obstacles is quite informative. One response to obstacles is to give up. Julian never gave up. Another is to work hard and push through or climb over obstacles. Julian could do that. He could fight. But Julian preferred a third approach: to find ways around barriers.

According to his daughter, Faith, the greatest challenge Julian faced was persistent racism. Even for the charismatic Julian, forming friendships with White colleagues was complex, especially in his younger days. And Julian lived in a White professional world, day in and day out. As he wrote from Vienna in 1929 during his doctoral studies to his handpicked sabbatical leave replacement, Jacob Shohan, at Howard University (4),

I only hope that you will consider me from now till eternity a brother in the true sense of the word, and that we together may realize and enjoy a communion that knows no restraints. I am bold enough to think that such is possible, even in America.... However you may consider others of my race, I, for one, request the privilege of being considered as your friend only—without adjectives or limiting phrases....

Julian experienced subpar primary and secondary education. He attended the State Normal School for Colored Students in Montgomery, Alabama, his hometown, where a teacher facilitated his matriculation into DePauw University in Greencastle, Indiana. In 1916, Julian began as a subfreshman and was required to take 2 years of remedial classes at the Indiana Asbury Preparatory Academy along with his regular classes (5). To earn his keep, he served food and stoked the furnace at a fraternity house. In 4 years, as improbable as it seems, Julian graduated Phi Beta Kappa and class valedictorian.



Fig. 1. Percy Julian in the 1940s. Photograph courtesy Faith Julian. Image credit: AP photo.

Despite these successes, Julian was not permitted to follow the educational track of his White peers. In later years, Julian recalled when his hopes were shattered (6):

It was tradition in that day at DePauw for the head of the Department of Chemistry to find graduate fellowships for all of the majors who wished to go on to the Ph.D. I stood by as day by day my fellow students in chemistry came by saying, "I'm going to Illinois;" "I'm going to Ohio State;" "I'm going to Michigan;" "I'm going to Yale." "Where are you going?" they asked, and they answered for me, "You must be getting the Harvard plum!"

I could stand the suspense no longer. I went to Professor Blanchard from North Carolina, as staunch a friend as he knew how to be then, and certainly later

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my most unforgettable friend, and asked timidly, "Professor, did you possibly get me a fellowship?" And then this dear fellow with resignation told me, "Now, now, Julian, I knew you would be asking me that. Come into my office." And there he showed me numerous letters from men who had really meant "god" to me—great American chemists of their day. And they had written him, "I'll take your Mr. —, but I'd advise you to discourage your bright colored lad. We couldn't get him a job when he's done, and it'll only mean frustration. In industry, research demands co-work, and white boys would so sabotage his work that an industrial research leader would go crazy! And, of course, we couldn't find him a job as a teacher in a white university. Why don't you find him a teaching job in a Negro college in the South? He doesn't need a Ph.D. for that!"

Julian circumnavigated that roadblock. At first, he followed the trajectory expected of him. For 2 years, he taught chemistry at Fisk University, a historically Black college and university (HBCU) in Nashville, Tennessee. Julian's plan was to obtain financing that would automatically grant him acceptance at Harvard. In 1922, he was awarded Harvard's Austin Fellowship, which was "designed primarily to encourage men who have been obliged to begin teaching before they have finished their education" (7). Julian received his Master of Arts degree from Harvard University, doing research with the eminent organic chemist E. P. Kohler. Julian continued his studies at Harvard for 2 more years, but he was not admitted into their doctoral program. According to some reports, the chemistry department was not yet ready for a Black graduate student to teach White undergraduates (8, 9).

Julian taught for 1 year at another HBCU, West Virginia State College for Negroes in Charleston. He then moved to Howard University, where the new president, Pastor Mordecai Johnson, was upgrading the faculty standards (to the doctoral level), providing modern research facilities, and

urging many of his staff to get their doctorates. In 1929, Julian received a General Education Board fellowship funded by the Rockefeller family (10), took leave from Howard, and earned his PhD in 1931 at the University of Vienna. He studied under Ernst Späth, a leading alkaloid chemist.

Julian returned to Howard as a full professor and head of its chemistry department. Within a year, he was forced to resign his professorship. According to a fellow member of the NAS, NIH's Bernard Witkop, Julian's resignation was due to "some unfortunate intrigue" (2). According to William Montague Cobb, the first Black doctoral anthropologist, it was "due to unfortuitous circumstances" (11). Others cited "university politics" (12, 13) or "internal politics" (14). According to the June 18, 1932, issue of *The Afro-American* newspaper (15), in March 1932, Julian had fired Robert B. Thompson, his chemical laboratory technician. Thompson then sued Julian for alienating his wife's affections. Julian then countersued Thompson for false charges.

At the same time, another controversy enveloped Julian. At the urging of Howard's president, Julian fired Jacob Shohan. Letters that Julian had written to both Thompson and Shohan when Julian was a student in Vienna appeared almost weekly in *The Afro-American*, along with a series of highly derogatory, even vilifying, poison-pen columns by an anonymous correspondent. These op-ed articles were intended to embarrass and discredit Julian within the Black community and smear Howard University. It was too much for Howard's Board of Trustees. Julian was terminated (Fig. 2).

As Julian stated in a 1934 letter to the editor of *The Afro-American* (16),

... after publication of my letters, etc. in [*The Afro-American*], every Negro school sent its regrets to me... My endless refusals at industrial plants on racial grounds—even to the point of telling me that "I was butting my head against a stone wall" ...

Julian was an outcast. One lifeline was extended to him, from his undergraduate chemistry professor, then dean at



Fig. 2. Front page of the Washington, DC section of the June 18, 1932, issue of *The Afro-American* newspaper. Note that of lesser importance to the Julian resignation was the report that President Herbert Hoover spoke at Howard University's commencement (15). Reprinted courtesy of *The Afro-American* Newspaper image archives.

DePauw, William Martin Blanchard. Julian started as a research fellow at DePauw in the fall of 1932. Over the next 4 years Julian published 10 articles in the *Journal of the American Chemical Society*, mostly with undergraduates; an 11th publication with research from DePauw would follow in 1938. He published the first total synthesis of physostigmine (17), an important drug, and corrected errors of the then-reigning organic chemist Robert Robinson. With the Great Depression raging and financing gone for his position, and despite the Dean's and President's recommendations, DePauw's Board of Trustees refused to appoint Julian to the faculty. "The time wasn't right ... because he was a Negro" (18, 19).

On Christmas Eve 1935, Julian married the former Anna Thompson, the woman with whom he'd had the alleged affair. She received her doctorate in sociology from the University of Pennsylvania in 1937, the first Black woman in the United States to receive a Ph.D. in that discipline.

It was 1936, and Julian needed a job. He was almost hired by the Institute of Paper Chemistry in Appleton, Wisconsin, but when it was discovered that there was a local statute that stated, "No Negro should be bed or boarded overnight in Appleton," the job offer disappeared. However, a member of the Institute's Board who was also a vice president of Glidden, a paint company, heard of Julian and his qualifications. A telephone interview resulted, and Julian was hired.

Shortly after Julian arrived at Glidden, water leaked into one of its huge oil tanks. A white mass precipitated, clogging their system. In those days, all paints were oil-based, the "oil" was plant-based. In short order, Julian determined that the precipitate contained a mixture of plant steroids, including sitosterol and stigmaterol. Julian developed and supervised a commercial process to produce pharmaceutically important steroids and steroidal intermediates: for example, progesterone and Reichstein's substance S, the key precursor to cortisone. Because he was providing significant financial value to Glidden, Julian's supervisors tolerated his "academic research" on academically oriented alkaloid chemistry with several of Glidden's chemists, another example of achieving his goal of doing academic research without butting heads with the system.

In 1950, the Julians purchased a home in Oak Park, Illinois, a White suburb of Chicago. On Thanksgiving 1950, prior to their move, arsonists attempted to burn down the house. On June 12, 1951, a bomb was thrown at their house but detonated on the ground. The family stayed, gradually gaining community acceptance and overcoming another racist obstacle. Indeed, daughter Faith Julian still lives in that family home. In this instance, going around an obstacle meant staying put and living through the most serious of threats.

After 17 years, Glidden decided that Julian's academic research had to stop. Glidden would focus on its core business, not fine chemicals. Julian and Glidden amicably parted ways. Again, Julian did not fight the system; rather, he worked within it and around it. In 1954, at age 55 and with no entrepreneurial experience, Julian started Julian Laboratories in Franklin Park, Illinois. Within a year, his company was a financial success, mainly manufacturing steroids and conducting contract research. Julian developed farms

in Mexico and Guatemala and a laboratory in Mexico to produce botanical materials for steroid production. By 1961, Julian Laboratories had become so successful that the pharmaceutical giant Smith, Kline & French purchased the company for more than \$2.2 million (approximately \$22 million today). Julian then founded Julian Associates, which became the major supplier in America of previtamin D, among other products.

As his business and fame grew, Julian became a major philanthropist, supporting academic institutions and Black and White charities. He led a National Association for the Advancement of Colored People Legal Defense and Educational Fund campaign to fight against discrimination in jobs and housing. In his mid-70s, Julian arranged for the sale of his companies and, most importantly, his recipe for previtamin D, to Diamond Shamrock. By then, he had developed liver cancer. He died shortly thereafter, having received many honors and awards, including, posthumously, a US commemorative postage stamp in 1993 (Fig. 3).

Few of the Julian biographies have documented the causes for his resignation from Howard and his serious reduction in academic rank. Authors tend to depict Julian as flawless, the "perfect" role model. But recent studies have found that aspirants seek role models with whom



Fig. 3. US Postal Service stamp honoring Percy Julian, 1993. Image courtesy Faith Julian. Copyright United States Postal Service. All rights reserved.

they personally can identify (20, 21). As an imperfect human, Julian demonstrated that he could triumph over racism and prejudice, and that he could grow and overcome his own behavioral shortcomings. Seen through those lenses, Julian and other highly accomplished scientists might become even more valuable role models than the idealized forms of themselves.

What might Julian have achieved without the restraints and barriers of racism? As he said near the end of his life (1, 22–24),

I still feel that my own good country, noble as she is, robbed me of the chance for some of the great experiences that I would have liked to live through. Instead, I had to do like many Americans, I took a job where I could get one, and I tried to make the best of it.

What about Julian's legacy? Yes, he was an impressive chemist and business person. Every step along his way he bettered himself, and he bettered those around him. He was a force for good. What endures beyond that is the role model Julian represents for Black students considering careers in science. And too, the role model Julian can be for all of us, when facing serious roadblocks in our own lives and needing the courage to find a way around if not through them.

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