

# From Solid Propellants to Social Justice:

## A Conversation with Alumnus Bill Hutchinson



# W

*hen Congressman John Lewis visited Caltech last spring to speak at the Institute's 124th commencement exercises, the words of the renowned civil rights leader had special resonance for one audience member.*

*As a black man who had grown up in Birmingham, Alabama, Bill Hutchinson (MS '57, PhD '60) had a ringside seat as issues of racism and social justice played out in the middle decades of the last century, and he forged his own role in the struggle for housing rights and social justice.*

*Hutchinson was at Caltech at a time when there were few black students, all graduate students and all male. As he says, "Having 10 fingers, I never lost count of the total. I never had to use my toes!" Aiming for a life as an academic, he switched course when the space race opened up jobs previously inaccessible to black people. He spent his career in Southern California's aerospace industry—including three years at JPL—and settled in Altadena with his wife, LaVerne, and three daughters. Only his eldest, an ophthalmologist, followed him into the world of science, while his other two children opted for careers in the corporate arena. Two of his grandchildren currently study at Stanford.*

*Caltech magazine met with Hutchinson, a widower for the past 23 years, to talk about learning from Linus Pauling, living in the Old Dorm, meeting Dr. Martin Luther King Jr., and what it was like to have a career he could not talk about.*

**Caltech magazine [CM]:** Do you visit campus often?

**Bill Hutchinson [BH]:** Well, as a matter of fact, I was down on campus this past Friday. My roommate from graduate school was in town, so I took him to lunch at the Athenaeum, and we sat around and talked with a couple of guys who were faculty members at Caltech; one of them is Steven Frautschi, who lives a couple of doors down the street. Steven and I have been neighbors for 40-odd years, and we're always down on the campus. We've been going to the free concerts at the Beckman Auditorium for 25 or 30 years. The music is good, and you can't beat the price!

**CM:** What drew you to science as a child?

**BH:** I grew up as the younger of two sons; my father was a physician and my mother was a teacher. They had met as college students in the 1920s, he at Morehouse College and she at Spelman College, both in Atlanta, Georgia. My dad remained a physician in Birmingham, Alabama, until his death in 1947, when I was 13.

As a kid, after my father's death, I enjoyed reading books from his office library. I assume that reflected my earliest scientific

interests. I was also competitive with my brother as I followed him through school. Now deceased, he became a very successful cardiovascular and thoracic surgeon.

**CM:** Why did you come to Caltech to pursue your graduate studies?

**BH:** There were several reasons: I had earned my undergraduate degree in chemistry and mathematics from Morehouse in 1955, and my major professor there suggested I apply for a fellowship that he had seen published for graduate study at Caltech. I had been intrigued by the May 16, 1955, *Time* magazine cover story about Caltech's then-president Lee DuBridge, and I wanted to study where Linus Pauling, a recent Nobel Prize winner, taught. In the end, I was awarded the fellowship for which I had applied.

**CM:** Tell us about arriving at Caltech. Were there any surprises?

**BH:** It was the first time I'd ever flown on a plane. When I landed at the L.A. airport, I ended up catching a bus and transferring several times. Finally, I got to Pasadena—I think the bus let me out on the corner of California and Lake. So I walked over to campus with my suitcase, looking for the Old Dorm, where I was supposed to stay.

eventually found out that the fellow was James Bonner, professor of biology.

One strange surprise was my discovery of the mountains above Pasadena one day after the smog cleared. I think this was after my second week in Pasadena. The smog was terrible back then. You'd go out in the afternoon and people were burning trash in their yards, and your eyes would tear up from the exhaust gases the cars were exuding.

**CM:** Who most influenced you at Caltech?

**BH:** I was impressed first by my fellow students. They were from all over! Living in the Old Dorm, it was like a United Nations. There were people from all over the world.

Once I began a research effort, my friendships and interactions centered around Jerry Vinograd, the professor who headed the group I worked in and with whom I developed a good relationship, and the others in the group. And of course, there was Linus Pauling, who had always impressed and influenced me.

**CM:** What was the subject of your PhD research?

**BH:** I identified which of the two polypeptide chains of the sickle cell hemoglobin molecule contains the amino acid substitution that leads to the clinical manifestations of sickle cell disease.

I had chosen to work on sickle cell anemia because I had a cousin who had the disease. In fact, I encouraged him to come to California just so I could have him around and he could be involved as I did the work. I used a lot of his red blood cells in my research, and by the time he got married, we had developed a test to determine whether or not a baby would develop sickle cell anemia at birth. His first child was the first person we ever did that test on.

**CM:** Was it intimidating to be in the presence of luminaries like Linus Pauling?

**BH:** I thought his feet hardly touched the ground when he walked! There's

one funny story I can tell about Linus Pauling. This was after I completed the experimental work for my PhD and had begun to write my thesis. One day, I walked into a hardware store on Colorado Boulevard up from the campus, and there's Linus Pauling buying some chains. I recognized him, and I don't know what possessed me,

but I walked up to him and said, "Hi, Dr. Pauling. I'm just wondering, why are you buying chains?" And he said, "Well, young man, some of my associates have done some very interesting work, and I'm going to use the chains to talk about it on cable television tonight." And I said, "Well, what work is that?" He proceeded to tell me about

the work ... and it turned out to be my PhD thesis work! I was so intimidated and fascinated by his explanation of my work that I never acknowledged that he was talking about my work.

**CM:** You were at Caltech when Dr. Martin Luther King Jr. visited campus in 1958. Do you have any memories of that visit?

**BH:** King earned his PhD from Boston University in 1955, the same year I completed my undergraduate work at Morehouse. While I was at Morehouse, the faculty would often discuss Morehouse alums like MLK [who had earned his bachelor's degree at the Atlanta college] who were studying for advanced degrees throughout the country as a way to inspire us to continue our studies. So, I was familiar with King before he became well known and visited Caltech.

After his public talk at Caltech, King met with a small group of students for an informal session; I was one of those students. I raised my hand and asked him, "When are you going to take your movement to Birmingham, Alabama?" I told him that, having grown up there, I was concerned about what Negroes were subjected to there. I told him about the blatant racism, rampant police brutality, and the bombing of the homes of blacks by racists. I added that the police took no actions to find and convict those responsible for the bombings. After hearing my plea, King said that he would take his movement to Birmingham "when the time was right." That time came in 1963. The Birmingham visit culminated in the bombing of the 16th Street Baptist Church on September 15, resulting in the killing of four girls attending Sunday school. That was my family's church. My grandfather was actually the superintendent of the Sunday school back in the '20s and the '30s. When my mother died in 1997, my brother and I donated our family home to the church.

**CM:** How did your career take off after your time at Caltech?

**BH:** I had thought that I'd get a PhD and go to teach at some college down south. The launching of Sputnik by Russia in 1957, and the ensuing space race, changed ev-

everything. Job opportunities until then unavailable to blacks suddenly appeared in the new aerospace industry. I worked in areas bearing little relation to the chemistry of my graduate studies. First, I took a job at Aerojet General in Azusa, California, developing solid propellants for the Polaris missile. Then I moved to JPL, where I studied the mechanical properties of polymers used as binders for solid propellants. From JPL, I went to McDonnell Douglas, where I studied and analyzed the effects of nuclear weapons on rocket propulsion systems and developed techniques to harden such

systems to enable them to fly through a nuclear environment to deliver their payloads. After that, I went to the Rocketdyne division of Rockwell International in Canoga Park, California, to develop high-energy lasers for applications as weapons.

After my first two or three years in the industry, my work was pretty much all classified. I don't even know if I can talk about it now. There's nothing like doing something really interesting that you can't tell anybody about. We frequently ended up going to places that were very much off the beaten track. I often think how my wife would have been surprised if something had happened to me on one of those days and I had gotten injured. She'd have wondered, "What in the world is he doing there?" When I came home from work, I just never mentioned where I'd been. That's just one strange aspect of the work that I did.

**CM:** How have racism and discrimination affected you?

**BH:** My racially ambiguous appearance has often protected me from racial discrimination, though I have experienced overt racism when my race was realized. Because of that, I fought and won an important legal precedent against



Hutchinson was a guest at the luncheon held for Rep. John Lewis after the U.S. congressman's speech at Caltech's June 15, 2018, commencement.

“One day, I walked into a hardware store on Colorado Boulevard ... and there's Linus Pauling buying some chains. ... I don't know what possessed me, but I walked up to him and said, 'Hi, Dr. Pauling. I'm just wondering, why are you buying chains?'”

By that time, it was so late everything was closed. I was wandering around wondering where I would sleep. I was so tired I started looking at piles of leaves on the ground! I ran into a fellow who arranged for me to stay that night in the loggia [the upper-level outdoor sleeping porch] at the Athenaeum, which was quite an experience. It was a chilly night in September, but it was salvation to me. I



When Dr. Martin Luther King Jr. visited Caltech in 1958, Hutchinson was among the students who met with the civil rights leader, though his meeting with King took place at the Caltech Y, with no photographers present.

discrimination in housing in the State of California shortly after graduate school.

To shorten my commute to my first job in Azusa, I moved from Pasadena to an apartment in Monrovia. For a month, I lived there without a problem, until a friend—a fellow who had attended Morehouse with me—stopped by for a visit one evening. While he was there, the manager of the apartment building came to my apartment and told me that my next-door neighbor had seen a “n----r” enter my apartment and that he wanted my friend to leave. I told the manager that I saw no reason that my visitor should leave because he had done nothing to warrant his being asked to do so. The manager said that my neighbor had raised a question about my race. I then asked the question, “What if I’m a Negro?” to which he responded that I would have to leave.

I told the apartment manager that I would fight any effort to evict me. In the following weeks and months, I was harassed. My utilities were regularly cut off and tenants above my apartment would bang on the floor throughout the night to disturb my sleep. The managers would try any trick in the book to get me in some situation where I’d be compromised and they’d have good grounds for evicting me. After several months of my refusal to move, I was sued under California law in an unlawful detainer action [a legal procedure to evict someone from the place where they live]. The case was heard in the municipal court in Monrovia. I was allowed no defense against the

eviction and the unlawful detainer, and was ordered to vacate the apartment.

I appealed the eviction with the argument that the apartment owner had used the court system and the resources of the State of California to deny my right to equal protection under the law as accorded me by the 14th Amendment of the U.S. Constitution. For years before this ever happened, I had been talking with other fellows at the Morehouse Club in Los Angeles about strategies to fight housing discrimination, so I just happened to fall into a situation where I could actually do something about it. And I was always interested in law, having seen my parents strategize for years about what could be done about the racism in Birmingham. The appeal moved to higher appellate courts of California, where I won. My case, *Abstract Investment Company v. Hutchinson*, remains the controlling case in current housing litigation in California.

I continued to fight racism and discrimination over the years—coming along when I did before affirmative action, I often had to fight battles for myself and others. But to protect my family, I tried not to draw attention to those efforts. I’m not claiming heroics or anything like that, but as a black man I could get myself into trouble almost without even thinking about it. And I’d have to figure my way out of it. So, this was just my way of coping with the situation. 🗨️