

Ann Hirsch

I find it difficult to talk about myself, in part because I was taught that putting the spotlight on yourself is bad manners. However, we live in a different age now, in which my behavior is an anomaly. My parents, who were very modest, no-nonsense people, even though they were absolute opposites in their upbringing, interests, and education, shared that reticence, although my mother was more talkative. My mother was one of three; her two brothers were very good musicians. My maternal grandfather made hardwood furniture, and much of it was in the house I lived in as a child. My father was the youngest son in a family of six, four boys and two girls. They ran a large farm in North-Central Wisconsin, but my grandfather died of Bright's disease, a kidney ailment, when my dad was 10. The older children eventually left, so my father, his younger sister Vivian, and my grandmother Susanna (aka Anna for whom I was named) were left to deal with the house and farm. Little by little they sold off farm lots and when Anna died, very little remained. Generally, farmers are not famous. The only famous Hirsch I know was Elroy (Crazy Legs) Hirsch who played football for the University of Wisconsin–Madison and later turned professional, but I never met him.

My father met my mother at a dance in Milwaukee; unlike my mother, he had minimal interest or talent in dance and music. Nevertheless, when I was a child, he agreed to take me to music lessons,



but that stopped after more and more brothers and sisters came along. I am the oldest of many children; I guess my father was following the typical farm family tradition, but unfortunately one of my brothers was severely handicapped and this changed the dynamics and complexity of our family life. As the oldest child, I was expected to be responsible, and because I was the oldest girl, my role was prescribed. Nevertheless, in my career I chose a less-traveled road compared with my family history.

I never thought of myself as a scientist. It was way off my radar screen, because of my upbringing and interests at that time. I was in plays in elementary and high school but could not make a full commitment because I had to work either as a babysitter or an au pair, or after I turned 16, part time in a bakery, which had its benefits. In high school, Ms. A.G. was an inspirational teacher who read us Shakespeare and had us act out parts in the classroom. She took us to dress rehearsals and read

poetry. I did watch television shows on science, but again never thought that such a career would be my destiny. During this time, however, the racial discord in Milwaukee that had lain dormant for decades exploded. One of my high school teachers, Mr. J.G. was very influential in pointing out the discrimination that occurred day by day for people of color; both he and Ms. A.G. strongly affected my life and decision-making. Luckily for me, my high school was racially and ethnically diverse at that time, and it has become even more so over the years.

When I went to college, I decided a degree in Journalism would be my best path because I was passionate about the inequities in education and career options for women and people of color. But in my first journalism course, I became very disillusioned. I was taught first how to avoid libel and slander, instead of how to write. Perhaps I should have been more patient. However, I also took an introductory biology class, and I learned about plant diversity. Later, I had a work-study job in a plant lab that was researching unicellular single-celled green organisms. I found it interesting, and so I took a microbiology class, thinking that it also might be interesting. However, the professor thought that the only thing women would do with a microbiology degree was become a nurse or a medical technician. This convinced me that teaching young people requires encouragement, guidance, and support, especially for students who are inexperienced in academic life and its prejudices. Later, I applied to graduate school,

continued on next page



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but I did not know where I should go or what I should study. I applied to numerous programs (they did not charge money in those days). However, at the last minute, the University of California (UC), Berkeley, accepted me for the PhD program in Botany, and it was a no-brainer decision for me to go there.

In spite of the teargas, broken windows all over the Berkeley campus in response to the Vietnam war, the People's Park being two blocks away, and Patty Hearst living down the street, I was glad I moved to California. I met my husband, Stefan Kirchanski, at Berkeley, where we both were doing PhDs. I did mine with Don Kaplan, to whom I will be eternally grateful because he was a brilliant teacher as well as an iconoclastic scientist, and like me (and my mother) loved opera. Kaplan was from Chicago and I grew up in Milwaukee, so we had similar Midwestern experiences and ideals. When Stefan and I were graduate students, we joined the American Society of Plant Physiologists, as it was known then, and this played a part in our becoming Founding Members of the Legacy Society. Over the years we watched ASPP change to ASPB and grow in size. Our early days in the Society helped spark my interest in doing research, especially after hearing other people present their research at meetings. At that time, graduate students could give talks, and it was an important experience for me to get the encouragement and support from senior scientists.

Stefan and I survived Berkeley at a tumultuous time, but our "two-PhD couple" problem soon became

clear to me. Stefan got a job at the University of Texas at Austin, while I was employed by the University of Minnesota. This was not sustainable, so we left our jobs after two years to do postdocs at Harvard University, Stefan in Dan Branton's lab and I in John Torrey's. Torrey had a major influence on my scientific life; his curiosity about plants and their interactions with microbes, particularly nitrogen-fixing ones, made me understand that plants don't live alone. But the two-PhD problem did not go away.

Stefan decided to take a job in industry in a diagnostics lab along the Route 128 Beltway because of the related work he did at Harvard. So, I applied for a position at Wellesley College, which I obtained, and then spent a number of years balancing teaching and research commitments. I continued to work with John Torrey but also with Fred Ausubel, who at that time was down the hall from what remained of the Torrey lab in the Old Bio Labs; I also worked with Ethan Signer and Graham Walker at MIT. Doing science with them and their lab members was a great experience, and I learned a lot of microbiology. Torrey recommended that I become a member of a USDA-NAS panel for funding grant proposals to international scientists. This was life-changing in that it led me to numerous collaborations with scientists from many different nations. Industry jobs are not permanent, so Stefan moved to a similar job in California, his native state, and I was on the road again looking for positions until an offer came from UCLA at which time Stefan went to law school to become a patent attorney.

Careers in science have not been easy for women or people with different backgrounds and appearances; progress has been made, but there is still room for improvement. I am heartened by the many people who have persevered. My face mask from the Japanese-American Museum in Los Angeles reads *gaman*, meaning "patience," "to persevere and endure adversity with inner strength." Before I moved to California, I knew little of the forced incarceration of Japanese-Americans, who did much of the agriculture in California.

Ten years ago, I changed my research to discover plant growth-promoting bacteria as alternatives to synthetic N and P amendments, which have polluted our environment and helped destroy soil fertility. The experience of working with scientists from other countries, where subsidies for nitrogen fertilizers during the past 30 years have significantly diminished, made me realize we need to devise solutions to a problem that has been known for 50 to 60 years. F.D. Roosevelt believed in the soil's importance, as shown by this quote attributed to him: "A Nation that destroys its soil destroys itself." Furthermore, I believe that as scientists, we solve problems, don't we?

To give advice to young people is very intimidating, but one thing I can say is that I am still fascinated with plant-microbe interactions. It is best to do what you love, and you can always change, as I have over the years. And that's the advice I give to you. As Ralph Waldo Emerson wrote: "Do not go where the path may lead, go instead where there is no path and leave a trail."