

Alice Turner Schafer (1915–2009): Remembrances*

edited by Anne Leggett

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Alice Turner Schafer, one of the founders of the Association for Women in Mathematics (AWM) and its second president, died September 27, 2009, at

the age of ninety-four. As early as her high school years, Alice Turner demonstrated a deep love of mathematics and teaching. She attended the University of Richmond, where back in the early 1930s, the men's and women's colleges stood on opposite sides of Westhampton Lake, and women were not allowed in the campus library. Female students had never enrolled in advanced mathematics classes there until a dean advised Alice to "take mathematics courses on the boys' side of the lake". No one could have predicted how symbolic and significant a crossing

that would be.

As a senior in college, Alice applied for a fellowship to attend graduate school in mathematics at the University of Chicago, but despite her stellar undergraduate record, her application was denied. After receiving her undergraduate degree from the University of Richmond's Westhampton College in 1936, Alice taught secondary-school mathematics for three years to earn enough money to pursue graduate study. It was at the University of Chicago

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that she received her M.S. and Ph.D. degrees. She married fellow mathematics graduate student Richard (Dick) Schafer as they were completing their doctoral work in 1942. Her dissertation on projective differential geometry was supervised by E. P. Lane, and she published papers based on it in the *Duke Mathematical Journal* and the *American Journal of Mathematics*.

Alice held positions at eight different colleges or universities before moving to Wellesley College in 1962 (a successful solution to the "two-body problem", as by then Dick was a professor at MIT). At Wellesley, she soon became department head and the Helen Day Gould Professor of Mathematics. In 1964, her alma mater, the University of Richmond, recognized Alice with an honorary D.Sc. degree.

Following her first retirement from teaching in 1980, Alice stayed two more years at Wellesley, serving as chair of its Affirmative Action Program. She then resumed teaching at Simmons College and in the management program in the Radcliffe College Seminars. When Dick retired from MIT in 1988, they moved to Arlington, Virginia, and for the next seven years, Alice taught mathematics at Marymount University until retiring for the final time at the age of eighty-one.

In 1985 Alice Schafer was elected a fellow of the American Association for the Advancement of Science. In 1990, to commemorate all she had done for the organization and for women in mathematics, AWM established its annual Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman. The MAA honored Alice in 1998 with its Yueh-Gin Gung and Dr. Charles Y. Hu Distinguished Service to Mathematics Award,

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Photo courtesy of Richard Schafer.

Alice Schafer, Washington, D.C., 1987.

citing her work as a mathematics educator and as a champion of the full participation of women in mathematics.

The hiring of women mathematicians, a constant concern to Alice, is reflected extensively in her 1991 *Notices* article, “Mathematics and Women: Perspectives and Progress. Women in Mathematics”. In it she notes that at the time there were 303 faculty members in the “top ten” mathematics departments but only five women, four tenured and one nontenured. Always the advocate, she relates the following encounter:

... when I was talking to a mathematician at another of the “top ten”, I asked why there were no women on the faculty. His answer was that if the department could find anyone as good as “X”, a woman at a less prestigious university, that his department would hire her. “What about hiring X?” I asked. No response—end of conversation.

Under the auspices of the People to People Ambassador Program, Alice Schafer led three different delegations to China to promote the equal treatment of women in mathematics and science. She had fearless determination, boundless enthusiasm, and an unwavering commitment to the equal treatment of *all* mathematicians. She lived the word “inclusiveness” long before it became part of the standard terminology for statements on diversity.

Alice stayed in touch with many of her former students until recent years, when she was confined to a nursing facility and age diminished her ability to communicate. When former student Ellen Maycock, who is associate executive director of AMS, visited Alice and Dick two years ago, she mentioned to Alice that I had just become president-elect of AWM. Alice broke into a broad grin. The story meant a lot to me when Ellen told me about the visit. I’d like to think Alice is still smiling on us all.

Bhama Srinivasan

The 1970s were the heady days of the “second wave of feminism”, as it was sometimes called. Betty Friedan’s classic *The Feminine Mystique* had recently been published. I was living in the Boston area and teaching at Clark University in Worcester, Massachusetts. Academic women in Cambridge were forming consciousness-raising groups that met weekly, and I joined one. By coincidence, Linda Rothschild was in it, too. Change was in the

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Photo courtesy of Sylvia Wiegand.

Olga Taussky Todd Celebration of Careers in Mathematics for Women, MSRI, 1999. Past presidents of AWM. Left to right: Mary Gray, Bhama Srinivasan, Carol Wood, Alice T. Schafer, Jean Taylor, and Sylvia Wiegand.

air; women were energized, asking why they were ignored and marginalized. And only 7 percent of Ph.D.s in mathematics were awarded to women.

This was the setting when Alice Schafer started a group of women mathematicians in the Boston area that included myself, Linda Rothschild, Vera Pless, Betty Salzberg, and others. This group became a part of AWM, which was founded in 1971. Mary Gray was the first president of AWM, to be followed by Alice and then Lenore Blum and Judy Roitman. Alice approached me in 1980 to ask if I would agree to be the next president; I was, understandably, anxious about accepting what I perceived as a demanding job. One evening she called me and said, “That’s it, girl. You are it. Now have a drink and go to bed!” This was vintage Alice; how could one refuse? The next day she told me that she and others would help me if I accepted the position. Thus I had the honor of serving as the president of AWM, 1981–83. During this time AWM sponsored the Emmy Noether Symposium at Bryn Mawr College, the brainchild of Rhonda Hughes, who was on the faculty there. Alice, Rhonda, and I were on the organizing committee of this highly enjoyable event.

With all Alice’s career moves and her positions at colleges that were geared mainly to teaching, it is not surprising that she did not pursue a research career. She was a dedicated teacher, and her political activism, especially directed toward women’s issues and human rights, is well known. She and Mary Gray were the “mothers of AWM”, always ready to help with advice and action.

Alice and I had endless conversations about women’s issues and about AWM, and I regarded her as a mentor. An anecdote from Gail Collins’s book *When Everything Changed: The Amazing Journey of American Women from 1960 to the Present* gives the story of a woman who went to



Dick and Alice Schafer, Chicago, 1944.

court to pay her boss's speeding ticket—and was sent home by the judge to change her clothes because she was wearing slacks. This reminded me of Alice saying to me (around 1971), "It is now OK for women to teach wearing pantsuits." (Yes, there was a time when it was not OK.)

Now everything has changed, and American women mathematicians have made an amazing journey from 1970 to the present. AWM has played a big role in this movement, and Alice has been a primary player, indeed one of the movers and shakers. We will miss her.

Mary Gray

Great minds think alike, especially if we consider "great minds" to be those attuned to a strong feminism, politely (well, usually) and relentlessly pursued. AWM began operation from a corner of my desk; the organization's newsletter was written, printed, and distributed with a little help from my mathematician husband. Boston area women mathematicians had also decided that "something must be done" about the position of women in mathematics: we needed more of us, and we needed recognition and encouragement once we chose to do mathematics. Inspired by Alice Schafer, the Boston group had been gathering for support and, yes, plotting how to succeed in these goals. We joined forces, and we never looked back. Alice became the second president of AWM and moved the enterprise to Wellesley, where it flourished, gaining thousands of members and widespread influence.

In 1981 *Science* chose to publish a study done at Johns Hopkins purporting to show that females really aren't cut out to be mathematicians. My

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tendency was to shrug it off as just another annoyance, but Alice was indignant. She flew into Washington and demanded an audience for us (the atmosphere in the upper echelons of AAAS was pretty imperial) with the editor. He was totally unprepared for a little lady, as he put it, with a charming Virginia accent to be challenging the magazine to publish an editorial refuting the conclusion that had been drawn in the article. But we triumphed with a nice piece, "Sex and Mathematics". Too bad Larry Summers didn't read it before he ventured his opinion.

We, Alice most of all, were determined that no longer should women with Ph.D.s in mathematics face the exclusion from the faculties of major universities that she had. Alice also understood that we need to start with young girls and helped AWM get organized to do such events as Sonya Kovalevskaya days and to reach out to teachers in the K-12 system.

My husband and I often found ourselves at the opera with Dick while Alice was home with the cats and at math conferences with Alice while Dick was home with the cats. Maybe opera would have become less sexist if the cats had fended for themselves and Alice had decided to take on the operatic establishment.

Ellen Maycock

I was exceptionally fortunate to have had Alice T. Schafer as a classroom teacher and as an advisor at Wellesley College. I took the second semester of Abstract Algebra from her and went on to work independently with her on several topics. During my senior year, I worked with her on my honors thesis in group theory. After my graduation from Wellesley in 1972, I continued to stay in touch with her over the years. I last saw her in February 2009.

Alice was a strong and remarkable woman. She had a vision about the role of women in mathematics, and her efforts have made a huge difference. I went to college imagining that I would major in mathematics, but many students who excel in high school mathematics feel that way, and most don't continue. Alice's energy and her commitment to and excitement about mathematics made a big difference to me: the combination of her high expectations and the support she gave me was crucial. I'm quite sure that I would not have become a mathematician if I hadn't gone to Wellesley, and Alice's role was key. For my graduation, she gave me a Wedgwood plate that has a drawing of Founders Hall, where I took my mathematics courses; this plate still has an honored place on my dining room buffet. Alice continued to support me throughout

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my career as a college mathematics professor and as an administrator at the American Mathematical Society. I am very grateful.

Linda Rothschild

It was with great sadness that I heard about Alice Schafer's death. But what a life she had! I did not realize that she was ninety-four years old. Now I know that she was already over fifty in 1966, the year I first met her when I was a new graduate student at MIT and she was on the faculty at Wellesley. Alice was introduced to me at an MIT function as the spouse of an MIT faculty member. At that time she was not yet a household name. As the only woman among thirty-six new math graduate students at MIT, I was already heavily engaged in my mathematical studies and future research (as a graduate student was supposed to be), and although Alice and I exchanged brief words at later functions, we did not really talk until several years later. By then, the women's movement was picking up steam!

The first meeting of women in science and engineering I attended was held by Vera Pless at her home in suburban Boston in 1969. A wonderful group of women scientists of all ages gathered there, the first of several meetings to discuss the situation of women scientists and engineers. If my memory serves me right (no guarantee), it was from this group that some of us in mathematics, egged on by Alice, decided to meet from time to time to discuss problems particular to our field. Alice was a leading force of this group from the start. She had the vision to see that although we were just a small group, we could be part of a larger movement. We continued to meet for a couple of years while we were all still in the Boston area.



Alice at the Great Wall of China on her 75th birthday.

As the story has been told many times over, AWM was created following the annual AMS-MAA meeting in 1971 in Atlantic City, through the

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Photo courtesy of Sylvia Wiegand.

1998 JMM, Baltimore. Back row: Deborah Hughes Hallett (Hay Award winner), Cora Sadosky (AWM past president), Sylvia Wiegand (AWM president), Jessica Shepherd (Schafer Prize co-winner), Cathleen Morawetz (AMS past president), and Sharon Lozano (Schafer Prize co-winner). Front row: Martha Siegel (MAA secretary), Anne Leggett (AWM newsletter editor), and Alice T. Schafer (AWM past president).

considerable efforts of Alice, Mary Gray, and others. The continuation of Bhama's story above is that when a new president-elect for AWM was needed in 1982, Alice turned her sights on me. I had been less involved in AWM since the early years, and I had many excuses. Indeed, in the bad job market of the 1970s I held five different postdoc positions before obtaining a permanent position at Wisconsin, after which my life was further complicated by the arrival of two children. Alice, however, was not accepting any excuses! She told me in no uncertain terms that I had to be the next AWM president. She offered to give me all the assistance I needed as president, and after I got the job she was incredibly helpful. Both AWM and I survived my presidency, and I would like to think that both came out stronger, thanks to Alice's wise counsel.

After I moved to California I saw Alice less frequently, usually at the annual meetings. In her quiet way, she was always bubbling over with new ideas and projects for AWM. In fact, AWM had no need for a formal executive director until age caught up with Alice, who had really held the post without the title. Alice was like that: always giving away her ideas and doing the hard work, but never asking for the credit.

Alice Schafer was a force of nature: strong, steady, lasting through many seasons. She was persistent and persuasive, but never angry or perturbed. She was fortunate to have the support of her wonderful husband, Dick. AWM would not be what it is today without her energy, enthusiasm, and commitment. Women mathematicians of all generations owe her a great debt.