

**From Stereochemistry to Social Responsibility.**  
**The Eclectic Life of Otto Theodor Benfey. Part 2: 1990 to the Present**

Jeffrey I. Seeman

Department of Chemistry, University of Richmond, Richmond, Virginia 23173

In the 1992-1993 issues of the *Bulletin for the History of Chemistry*, written almost 25 years ago, the noted chemical historian James J. Bohning published a 13-page biographical memoir on Ted Benfey.<sup>1</sup> For this essay, the current author has added “Part 2” to the title chosen by Bohning, for it was a perfect title then, and it is a perfect title now. Ted was 68 years of age at the time and had just retired from his professional career – or so it seemed. It was appropriate, for various reasons, for Jim to write Ted’s memoir. Jim had produced many oral histories for the Chemical Heritage Foundation (CHF) and was shortly to produce an oral history of Ted. Jim had studied Benfey’s life and was primed and ready to write a Benfey memoir. Furthermore, Jim had known Ted for many years as both were active in the Division of History of Chemistry (HIST) of the American Chemical Society. HIST is the publisher of the *Bulletin for the History of Chemistry*. And Jim himself was a former Chair of HIST (1986) just as was Ted in 1966, an even 50 years ago.



**Figure 1.** Ted Benfey, Greensboro, NC, 2016. Photography courtesy of J. I. Seeman.

Ted has always been an educator, an academic, a prolific author and lecturer, and an editor. After his escape from Nazi Germany and his Ph.D. education with Sir Christopher Ingold and Edward D. Hughes at University College London (though in residence in Wales during some of the war years), Ted did postdoctoral studies at Columbia University with Louis P. Hammett. He taught at Haverford College (1948 – 1955) where he met and married Rachel née Thomas in 1949. Following a year at Harvard with Frank Westheimer and Leonard Nash (1955 – 1956), Ted taught at Earlham College (1956 – 1973) and then at Guilford College in Greensboro, NC from 1973 until his retirement in 1988. He also benefited from a year sabbatical at the Washington, D.C. offices of the ACS (1963 – 1964) where he readied himself to undertake the editorship of the ACS journal *Chemistry* (1963 – 1978).

With that brief summary, we join Ted and Rachel just about where Bohning's memoir left off, in the very late 1980s. Ted was still working at CHF and was on the Advisory Boards for *The Scientist* magazine (1986 – 1996), the *Bulletin for the History of Chemistry* (1988 – 1995), and *The Chemical Sciences in Society*, published by University of Pennsylvania Press (1989 – 1998). Today, he continues to be on the Advisory Board of *Foundations of Chemistry* (1998 to the present).

Ted has had an amazing ability to connect with many of the leaders of the various communities with which he's been associated. Just note the names Ingold, Hammett, and Westheimer, the founders of modern physical organic chemistry; and Nash, James Bryant Conant's colleague in teaching the history of science and the theory of science. Now Ted has added one more noteworthy colleague, that being historian and academic-entrepreneur Arnold Thackray. Or perhaps it was the other way around. Thackray, CHF's first president for several decades and essentially CHF's founder, guiding spirit and prime motivator, was always on the lookout for financial and human resources that would advance CHF's vision, agenda and growth.

Benfey was ripe (and right) for the plucking by the ever-hungry Thackray. Ted and Rachel moved to Philadelphia in 1989, and Ted became editor of CHF's magazine. This publication has had several titles, including *Chemical Heritage* and today, *Distillations*.

We shall now divide Ted's life between 1989 and the present into two parts, distinguished by where he lived in each: from 1989 to 1996 in Philadelphia; and thereafter, in Greensboro, NC.

Between 1990 and 1996, Benfey published some 20 technical papers, mostly in the area of history of science. For this author, the single most important of these publications and the

project that brought Ted and me together as colleagues and friends was his translation (German to English) of Vladimir Prelog's autobiography *My 132 Semesters of Chemistry Studies* in the ACS series *Profiles, Pathways, and Dreams* published in 1991. During that same time period, Ted's translation (German to English; the original Japanese was translated to German by someone else) of *The Japanese and Western Science* by Masao Watanabe was published by the University of Pennsylvania Press. And in 1991, his translation (French to English) of *The History of the International Chemical Industry*, by Fred Aftalion was published by the University of Pennsylvania Press.

### **Notes on Rachel's Personality and the Upbringing of Children**

by Ted Benfey

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I am not sure Rachel and I would ever have become interested in each other if it hadn't been for her fiancé's tragic death. I heard about it soon after arriving at Haverford and my sympathy for her loss helped open my heart to her. The intensity of that first love must have been very great. During the last months before her death she at times was sure Sergei had not died and was nearby looking for her. She sent me out to find him. At one point she decided she and Sergei finally would get married. I asked where I fit in. Her reply, I would give her away. I had become the father of the bride.

Rachel's suffering at that tragedy deepened her and made her more serious. I have always been too serious, no doubt in part because I was separated from my parents at age 10. My father Eduard was serious too. His brother Ernst (Ernest) was much more jovial. They were told they should have exchanged their names. My father had been quite militaristic, served in the German army in World War I, won the Iron Cross First class, and was crest-fallen at Germany's defeat and the Kaiser's abdication. After the war, my father became a supreme-court judge and was much valued. My parents were married in 1923, father 25 years older than my mother. He had been married before but the years of absence during the war

had estranged the couple and they could not be reconciled. They had had two daughters close in age to my mother, and the three women became close friends. The two daughters were my half- sisters and even though Janne lived in Switzerland and Gerda in Australia, we found ways to meet and learned to appreciate each other.

My father left the bringing-up of the three children – my brother, sister and myself – totally up to my mother. The idea of physical punishment was totally alien to me in Berlin, and with the Mendls also. Perhaps this is due to a classic Jewish way of bringing up children, the emphasis on education, on doing well in school, the belief that the children too can and will survive and make their mark. How Rachel managed to be the person she was I have no idea – her parents were Methodists living in rural North Carolina. Rachel's childhood was idyllic – playing outdoors in nature with siblings and friends, playing with paper dolls cut out from Sears catalogs, long walks with siblings and friends to get to school and back.

My mother was trained as a pediatric nurse but she never practiced her profession because she too early fell in love and married. Only when she retired from being personnel manager at the Window Shop restaurant in Cambridge MA, did she find a way to work in a hospital – as a ward secretary at Massachusetts General Hospital. Then at age 75 she moved to Greensboro to Friends Homes, catching up for the years she was separated from me. Rachel and I lived a block away.

As a student at Guilford, Rachel had become a Quaker. When she came to teach at Haverford Friends School after her graduation, she had arranged to live with a near-by family with three small children. These she cared for in the evenings after work. At Earlham she worked in the preschool and then became head of the preschool. After the move to Guilford, Rachel created her own pre-school *A Child's Garden*. No war-like games were acceptable. All the furniture came from Community Playthings, a company from the Bruderhof, an intentional community in up-state New York. The taste, the design largely followed the philosophy of the

Swiss Rudolf Steiner. All wood, no plastic, avoid sharp corners as much as possible. Very calming and peaceful. Waldorf schools are largely based on Steiner's philosophy and Rachel spoke of her ideas being a combination of Quaker and Steiner education.

A central Quaker belief is the worth of each individual, classically stated in the form that there is that of God or the Inner Light in each person. We both believed this in the depth of our being. It infused our teaching of students, and it was central to the way we related to our children. No matter how seriously we disagreed with what they were doing, or what they believed in, they always knew that we cared for them and believed in them. Be assured there were times like that.

Ted's original writings were, and continue to be, quite eclectic. Seven of his 20 publications were for CHF issues, primarily for *Chemical Heritage*. One was *A CHF Reading List* to provide titles to serve as an introduction to the chemical sciences. Several were short essays on eminent scientists (Ingold and Fritz Arndt) and one was a hefty brochure written with Mary Ellen Bowden entitled *Robert Burns Woodward and the Art of Organic Synthesis* that accompanied a travelling museum display. This brochure would be a forerunner to a major book entitled *Robert Burns Woodward. Architect and Artist in the World of Molecules* that will be discussed in this sequel. Non-CHF publications appeared in *Education in Chemistry* (on August Wilhelm Hofmann), in the *Journal of Chemical Education* (on *Hofmann's Benzene Tree at the Kekulé Festivities*), and two in *Chemistry & Industry* (one on Carl Schorlemmer and the other on *Biotechnology on the way to Israel*). He also published four articles in the *Bulletin for the History of Chemistry* between 1992 and 1996. Several of the articles were co-authored with Anthony S. Travis while Ted was at the Hebrew University in Jerusalem, particularly the ones on Schorlemmer and Hofmann.

In 1996, at the age of 70, Ted's residence at CHF and in Philadelphia came to an end, and he retired (again). Well, not quite.

Yes, Ted and Rachel returned to Greensboro, NC, where they had lived when Ted taught at Guilford College. They moved to the Friends Homes, more officially known as the Friends Homes at Guilford. This community was founded by the Religious Society of Friends

(Quakers). Indeed, Haverford, Earlham and Guilford Colleges – Ted’s teaching residences – all provide a Quaker-based education, and Quaker philosophy continues to influence their campuses. After moving to Greensboro, Ted continued his association with CHF, being Editor at Large of *Chemical Heritage* until 2014. Ted’s position as an Adjunct Professor in the Department of History and Sociology of Science at the University of Pennsylvania ended in 1996 when Ted left Philadelphia. To this day, he is Dana Professor of Chemistry and History of Science, Emeritus, at Guilford College, just across the way from the Friends Homes.

On their return to Greensboro in 1996, Ted and Rachel moved into a “magnificent house,” as Ted describes it, that was owned by the Friends Homes. They lived there very happily for 10 years. Sadly, in 2005, Rachel suffered a stroke and was moved to the skilled nursing facility at Friends Homes, and she died peacefully on September 22, 2013. Her obituary in the *Greensboro News & Record* said,

“Beloved companion for 64 years, artist, teacher, pre-school founder, superb cook . . . one of the founders of the city’s Hospice program . . . Making every action meaningful . . . When Rachel looked to her own departure she often thought of the beautiful words and melody of ‘Swing Low, Sweet Chariot, Coming for to Carry Me Home.’ And she chose as her last words: ‘I enjoyed living.’”<sup>2,3</sup>

When Rachel moved to the nursing facility, Ted moved to an apartment in the main Friends Homes building where he continues to live.

Ted and Rachel’s move from Philadelphia to Greensboro did not alter Ted’s inquisitive nature, his intellectual commitments, and his congenial collegiality (try to say that phrase quickly, ten times!). In addition to the advisory boards and emeritus and honorary positions he held, Ted has published 20 more historically-oriented technical papers in the past 20 years (that is, a total of 40 publications since 1996). He also initiated, assembled, and edited four books, each entitled *The Experience of War: Residents of Friends Homes Tell Their Stories*. These volumes, published by the Friends Homes in 2009, 2010, 2012 and 2014, are comprised of short essays by residents of the Friends Homes about their wartime experiences. The contents cover military service in Europe and the Pacific, forms of conscientious objection and alternative service, and service on the home front USA. The following brief excerpt from Herz

Rosenbaum's essay *Pacific Odyssey: A Memoir* provides a sense of the emotional content of these essays.

“As the candles of our lives burn down, let us offer a fervent prayer that our own small contributions were not meaningless, and that our kids and grandchildren will inherit a better world.” – Herz Rosenbaum (2009)

In 2015, Ted published the book *A Benfey Offering: Poems by Ted & Art by Rachel*. The cover of the book is shown in Figure 2 and one of Ted's favorite pieces of Rachel's art is shown in Figure 3. From that book, I offer for your pleasure three samplings of Ted's poetic creativity: a haiku, the last eight lines of a poem entitled *Voice –V –Vision – Voisin*.

### **A Haiku**

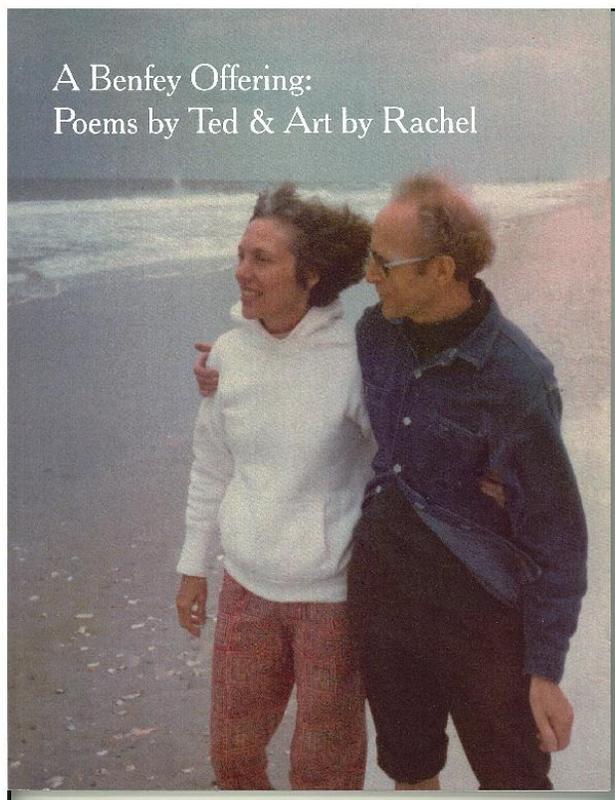
Elijah sought God  
Neither earthquake, nor fire spoke.  
At last a small voice

### **A Limerick**

There was an old man at Friends Homes  
Who seemed to be all skin and bones  
But when faced with a query  
His mind was not weary  
And he still loved his well-battered scones.

### **Voice –V –Vision – Voisin**

But once when I held her hand  
And said “I love you”,  
She managed to whisper “I love you” too.  
Those may have been  
Her last words before departing,  
No longer needing her body  
Which she bequeathed  
To the earth.



**Figure 2.** (left) The front cover of the Benfey book of poems and art. Rachel and Ted, on a beach along the Pacific Ocean just south of Tokyo. Photograph taken by and courtesy of the Benfey's eldest son Stephen Benfey who now lives close by this place.

**Figure 3.** (right) Rachel's painting is a collage which she called *Family*. Ted thinks of it as either their children or the children in the pre-school she founded which is now part of New Garden Friends School in Greensboro named *A Child's Garden*. The original hangs in the home of the Head of the school. From page 68 of *A Benfey Offering: Poems by Ted & Art by Rachel*, reprinted courtesy Ted Benfey.

Of Ted's 20 publications following his return to Greensboro, his most important and extraordinary achievement is the 470-page oversized volume *Robert Burns Woodward. Architect and Artist in the World of Molecules* that he co-edited with the eminent historian Peter Morris published in 2001 by the CHF. I personally own two copies. As a scholar in the life and accomplishments of Woodward – I have published seven papers on Woodward with another dozen or more to come – I can authoritatively praise this volume as extraordinary. In fact, Benfey and Morris did far more than edit this book. They contributed very valuable scholarship, the result of enormous research and thought. I use this book almost daily in my own research.



**Figure 4.** Ted and Jeff Seeman, Greensboro, NC, 2016. The mirror in the back shows Melinda Davis taking the picture. Photography courtesy M. Davis.

These 20 articles typically deal with history of European chemists (e.g., Ingold, Max Perutz, Heinrich Caro, and Norbert Rillieux, an American who was educated in France) as well as several book reviews, many published in CHF's *Chemical Heritage*. Benfey has been recognized by editors of many journals to have the expertise, the broad experience, and the writing style to be an effective book reviewer. Ted also has written about improved science education and philosophy of science. For example, his 2003 paper in the *Journal of Chemical Education* is entitled *Visions, Achievements, and Challenges of the Division of Chemical Education during the Early Years*. And he has written *Reflections on the Philosophy of Chemistry and a Rallying Call for our Discipline* (in *Foundations of Chemistry* in 2001) and *The Conceptual Structure of the Sciences: Reemergence of the Human Dimension* in the volume *Philosophy of Chemistry, Synthesis of a New Discipline* in 2006.

Certainly the warmest and most personal sign of admiration one can receive are from one's friends and one-time colleagues. Ted has that admiration, no doubt. A symposium was held in his honor on August 22, 2016 at the 252<sup>nd</sup> National Meeting of the ACS in Philadelphia. This symposium was organized and sponsored by HIST, and the list of speakers reminded this author of the NBC TV show from 1952 – 1961, *This Is Your Life*. (For those of you have never heard of *This Is Your Life*, several of these shows are available on YouTube.) As the host of the symposium, I felt as if I were Ralph Edwards who hosted this TV program. And how wonderful that this tribute would be in the city in which Ted resided for many years. At that meeting, Ted also was awarded HIST's Certificate of Appreciation award for his decades of contributions to the Division and to the history of chemistry.

There is more that can be said of the life of Otto Theodor Benfey. It has been and continues to be a life of substance, and a life of deep thought and multifaceted contributions. It is special to consider that more than 50 years ago, he was so acknowledged and appreciated that he was elected Chair of the Division of History of Chemistry. That was in 1966. For many of HIST's Chairs, the honor of being HIST's Chair – and privilege – comes near the end of their careers. For Ted, in 1966 the journey was just near the beginning.

May the candle of Ted Benfey's life burn brightly for years to come.

January 6, 2017  
Richmond, Virginia

(1) Bohning, J. J. *Bull. Hist. Chem.* **1993**, 13-14, 4-16.

(2) Anonymous In *Greensboro News & Record*: Greensboro, NC, 2013;  
[http://www.greensboro.com/obituaries/benfey-rachel/article\\_fa8521f5-62e1-5439-a877-25a6b8359771.html](http://www.greensboro.com/obituaries/benfey-rachel/article_fa8521f5-62e1-5439-a877-25a6b8359771.html), accessed January 3, 2017.

(3) Benfey, O. T., email to J I Seeman, wrote: "Rachel, while still alive and articulate, announced how she wanted her obituary to end. And I know from a number of people that they appreciated this concluding phrase - chosen by Rachel eight years after her stroke condemned her to a wheelchair. She did continue to enjoy living. She did not become despondent, depressed, angry." Greensboro, NC, January 3, 2017.