

Joseph Sucher

1930-2019



**Memorial Album to Commemorate
His 90th Birthday
(91st Birthday Revision)**

This was to have been the program for the memorial service which had been scheduled to take place at the University of Maryland in March 2020, but was ultimately canceled due to the COVID-19 pandemic.

Opening Remarks & Acknowledgements:

Evelyn Torton Beck

Friends, Colleagues and Family:

Francis Mechner (video)

Wally Greenberg

Drew Baden

Evelyn Torton Beck

Tom Cohen

Rob Baluch

Evelyn Sucher

Paul Berman

Ron Sucher

Francis Mechner will perform some classical piano pieces that Joe loved.

Joseph Sucher was Professor Emeritus of Physics at the University of Maryland. Together with his family he escaped from Vienna in 1938 and after more than two years in war-torn Europe, he arrived in the USA in 1941 at the age of 10. He attended Erasmus Hall High School, Brooklyn College and Columbia University, where he obtained his Ph.D. in 1957, with a thesis on the quantum electrodynamics of the helium atom.

He is best known for his work on relativistic theory of many-electron atoms, quantum theory of long-range forces, and the foundations of relativistic quantum



theory. His name is associated with the Gellman-Low-Sucher level-shift formula, the no-pair Hamiltonian for many-electron atoms, the Levy-Sucher identity, the Dirac-Sucher equation and the Feinberg-Sucher formula for the long-range force between neutral atoms.

He recounted his family's escape from Vienna in his memoir, *Luck Was on Our Side*, as well as in a series of audio interviews.

In *The Romance of Physics* he wrote "I encountered many of the great contributors to theoretical physics in the second half of the 20th century. By the romance of physics, I mean the tales and stories about the major actors in this field. They give a certain life to this abstract endeavor to understand the nature of the world and are not to be found in textbooks. In the 50s there were over ten Nobel Prize winners in the Columbia Faculty, many of whom became household names among physicists. I hope to regale you with some untold tales about them and others of their ilk."

In addition to physics he loved chess, Chopin, puns, Paris, his family and his friends.

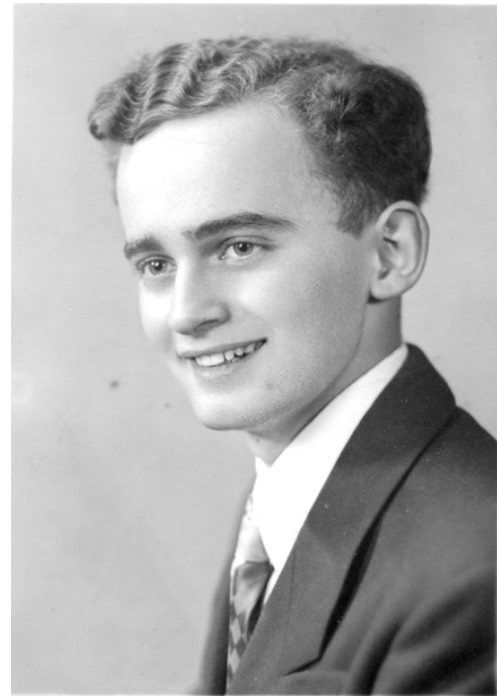


ESTHER JAGERMAN (cousin): *He was my little cousin and he was always Joey to me. He was born the day I started first grade and I always felt pride and enjoyment watching him grow into the wonderful person he became. With Joey gone the world looks a little darker. May Joey's memory be for a blessing.*

BLANKA SUCHER (sister-in-law): *My very first meeting with my then future brother-in-law will always stay vividly in my mind. I had arrived in Brooklyn in January 1952 for a short visit to my future husband, Harry. I was*

corresponding with him, and learned a lot about Harry's family. At my arrival I remember Joe jumping up from his seat, and greeting me so warmly by exclaiming: 'You are just as pretty as you look on the photo Harry showed us.'! That warm greeting will always stay with me.

SHERRIE MATHIESON (Niece): *Joey was always a joy in our lives and he will be forever remembered as such.*



ELIEZER ROBINSON (cousin): *Joe and I were born in Vienna Austria. His mother and my father were brother and sister. The family included four brothers and two sisters. It was when Nazi Germany incorporated the Austrian Republic that the Gestapo came and Jews were looking for where to go. Joe's family came to the USA and our family to*

Palestine. Our families kept in contact and we met again 50 years later. I remember him always charming, happy, loving his family, knowledgeable and looking forward to hear good news.

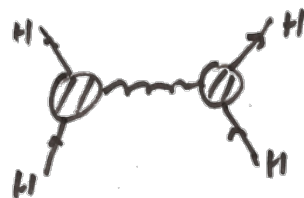
DAN SUCHER (grandnephew): *I will always remember Joe's enthusiasm for life and learning. It was so special for Joe to fly across the country for our wedding just a few years ago and despite the day being a whirlwind I vividly remember speaking with Joe before the reception. He had a very memorable light blue suit and a big smile on his face that made me feel so lucky that he could be there. I was thinking about both of my grandfathers who were not there that day and Joe's presence made me feel that I did have a grandfather there after all.*

ELIZABETH SCHWEBEL WIND (cousin): *He was a lovely warm man, who was so intelligent, friendly and down-to-earth. He made people feel at home when he was with them.*

LILA SNOW: *Sometimes eulogies to others are about the person giving the eulogy but Joe's were gems about himself as well. He said about George (Snow): "For the first time he has given us pain." He was our gatekeeper to the other side, a very special muse and a dear friend. George said about Joe, "I thought Sucher meant sweet because Joe was so sweet but it means seeker and he was a seeker as well." He embraced family and friends and physics, piano, chess, travel and much more. Farewell dear Joe. You will be missed.*



OLGA SHADYRO: *Your father Joe was very dear to me. From the time we met in Minsk at the conference. He was amazingly kind, soft and cheerful! Now there is an empty space in my life.*



- short runx!



THIS IS IT!

PHYSICS: THE PARTICLE PHYSICS GROUP AT UMD. Colleagues remember Joe.



1965 (l-r) Jogesh Pati, Harry Lam, Dan Fivel, Joe Sucher

JOGESH PATI: Joe was indeed a very special person in my life, as an inspiring teacher when I was a student at Maryland, and as a warm friend and colleague for over four decades when I was a member of the faculty. Always full of good will and humor, with a smile, and advice when I needed, and above all a refined taste for anything that is beautiful in physics and mathematics. I can hardly imagine our Particle Theory Group without Joe, even after he retired. I owe him a debt of gratitude and will badly miss him.

*AJAYA K. MOHANTY: He was a wonderful human being besides being a great physicist! All his students and post-docs and colleagues will always remember him with fondness and sweet gratitude. **As the notes from his friends keep pouring in, one can now slowly comprehend what a marvelous human being he was, and how he, in his inimitable style, touched so many lives and changed their destiny for the better. And, that is what great souls do!!***

*BEI LOK BERNARD HU: Joe is the best example amongst our colleagues of **a humanist in a scientist** — full of life and giving hope to others, despite his private sufferings facing many misfortunes in his family.*

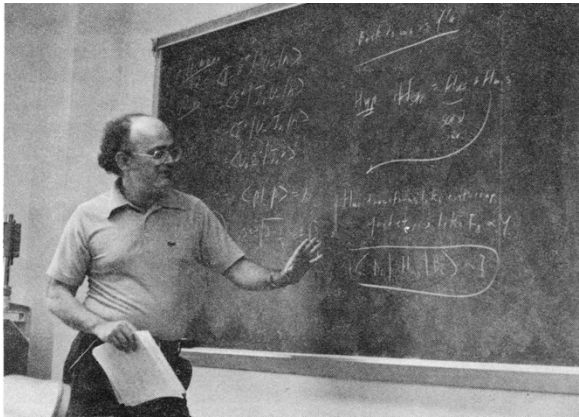
VELVEL HUSHWATER: I was his (last) graduate student in 90s. He helped me a lot in different ways. My work with Joe was great fun and I am grateful to him for everything he has done for me. Joe was very nice and intelligent person - a real mensch! He had a difficult life, especially as a child in the Europe under fascist domination before his family managed to escape to US on the last possible ship.

RICHARD BRANDT: *Joe hired me as a postdoc in the U of M Physics Department in 1966. That was my first job and the 3 years that I spent there were formative. The atmosphere created by Joe and his colleagues (Wally Greenberg, Ching-Hung Woo, Jogesh Pati, etc.) was stimulating, and I and another postdoc Claudio Orzalesi, and Claudio's wife Giovanna, soon became good friends with Joe and his family (Dorothy, Gabe, Michael, Anatol, and baby Ann). Joe was a brilliant and inspiring collaborator and friend, with a fine sense of humor and a wide range of interests. I will miss him.*

CLAUDIO ORZALESI: *I think that all of us have lost our best friend, Joe: he was like a generous father to all of us.*

CLAUDE KACSER: ***Joe was the friendliest, most "human," genuine, and most accessible person in the UMD Physics Particle Theory Group.*** *Joe created the group, and continually added new members; he mentored them, and led the group in a very gentle way. Joe had been hired by "Johnnie" Toll to create the group, when Joe was a very promising young Ph.D. straight out of Columbia. Joe hired me and mentored me.*

Joe was always tremendously friendly and outgoing. He had a phenomenal memory for anecdotes of past happenings with physicists he knew. His large desk consisted of many many tall piles of mixed journals, preprints, correspondence to and from others, and his own



handwritten research papers and semi-worked out ideas; and other random materials. And yet Joe could find anything he wanted to retrieve from what looked like this disorganized "chaos" (this was when we still wrote long-hand and had live secretaries!). Joe also had a phenomenal memory for physics, which helped everyone in the group.

As a physicist, Joe became one of the world's experts on the Casimir and van der Waals effects. Joe kept up with all aspects of his general high (and low) energy physics areas, and made many important contributions to many different aspects, starting when he was very young (Day, Snow and Sucher).

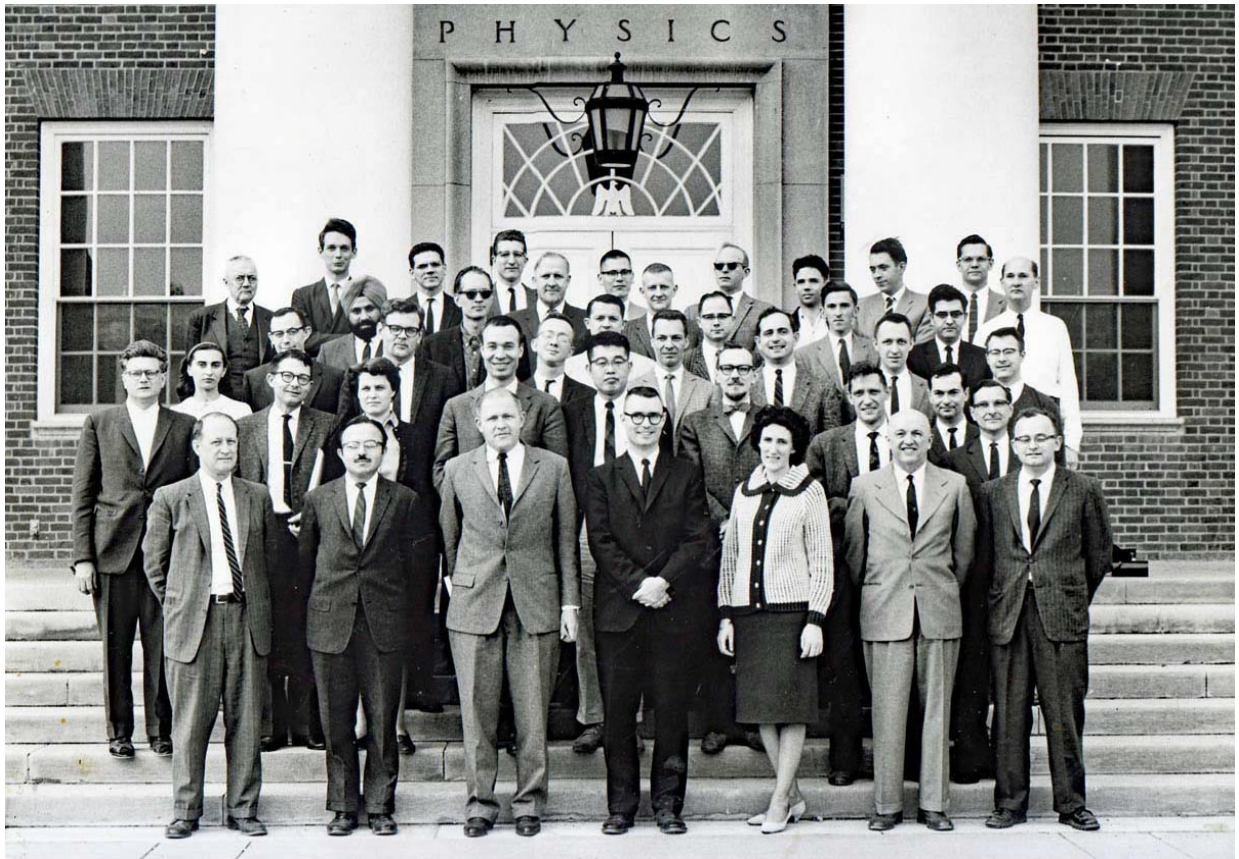
TED JACOBSON: *His sweetness and sense of humor, great stories, and deep insights into the quantum mechanics of atoms, were one of the bright lights in the Maryland physics department for me. When I sat down to write this note, I found a few things from Joe in my email box that delightfully bring him to life. This included some of his reminiscences in memorials for friends, replete with jokes and good stories. Re-reading them reminded me of how good I always felt when I ran into Joe.*

JAMES BABB: *I knew your father through the late Larry Spruch and colleagues, and was fortunate to take his course on relativistic atomic physics in the 1980's, when he was at NYU on*

sabbatical; he also visited our Institute several times. I'll remember his humor, which made conversations with him very delightful.

JORDAN GOODMAN: *He was a truly wonderful person. No faculty meeting was complete without a joke from Joe.*

UNIVERSITY OF MARYLAND PHYSICS FACULTY, 1963



DEPARTMENT OF
PHYSICS

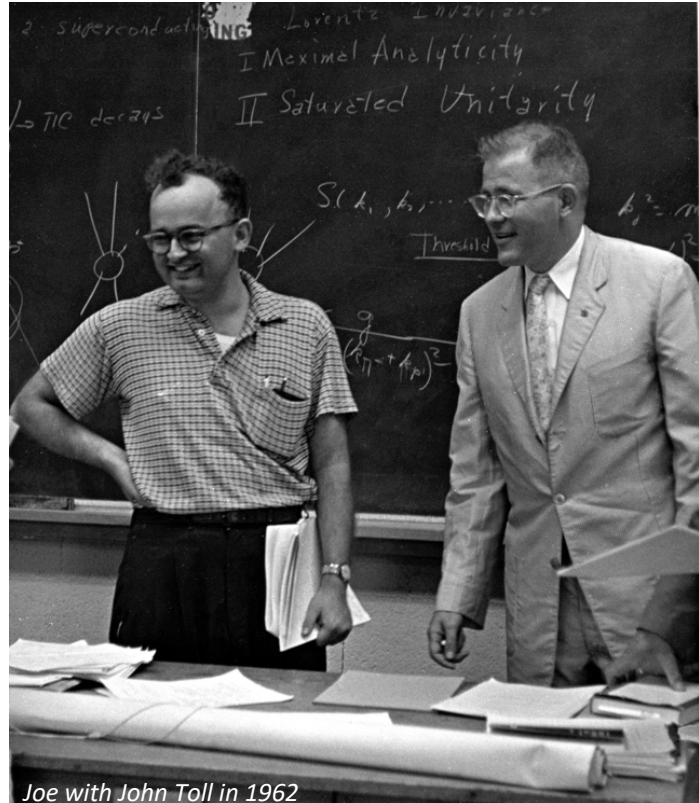
**Excerpted from *A TRIBUTE TO PROFESSOR JOSEPH SUCHER* by John Toll,
Professor of Physics and Chancellor Emeritus, on the occasion of Joe's
60th Birthday Symposium**

Back in prehistoric time, I had the best job one can imagine as Professor and Chairman of this Department. My major task in working with colleagues to build the Physics Faculty was to find brilliant young physicists. In this task I went annually to the American Physical Society and reviewed the placement files on recent PhD's. This was usually tedious and unrewarding work, but occasionally I would find a real star. The brightest theoretical physicist I ever located in this way was Joe Sucher, just completing his PhD degree at Columbia University. I had the good fortune in 1957 to persuade Joe to join our faculty with great benefit to the University ever since.

Joe has done much work in a kind of dispersion theory, but far different from the impractically mathematical dispersion theory that I've been involved in; he can do that too, but he specializes in using dispersion techniques to determine molecular forces and other predictions that can be compared with experiment. Joe has developed a beautiful approach to relativistic effects in the interactions of many electron systems. All of his work is characterized by an ability to strike through a morass of material and to explain what's really going on in ways that clarify and stimulate the work of many others... Joe has the advantage of working equally well with the arrests or experimentalists. For example, he combined with Tom Day and George snow in a series of papers that brought national attention to our department for their help in understanding K-meson experiments.

Whenever I had any idea that I thought might be good, he was usually the first colleague I would discuss it with, for he has an open style, great breadth, and a readiness to attack any problem... His cooperative attitude and zest for research have set a tone that reinforced our Department as one of the best places in the world for a theorist to work. It is his openness and the love of a good puzzle that he conveys to students that makes him such an excellent teacher... He has brought international recognition to Maryland and has won numerous honors, (including) a Guggenheim fellowship (in 1968).

-JOHN TOLL



Joe with John Toll in 1962

FROM ATOMS TO QUARKS
A Symposium in Honor of Joseph Sucher

NAME: *Melba Phillips*

INSTITUTION: *Retired*

BITNET NUMBER:



Remembering Joe Sucher

by Sandra A. Lange



PHOTO BY COURTESY OF ANATOL SUCHER

At the 1972 Labor Day Festival, Joe Sucher played simultaneous games of chess against all comers to raise money for the Greenbelt CARES.

We remember our friend Joe Sucher as an interesting, intelligent, kind and generous person. We especially remember him as a chess wizard. As a teenager, Joe learned to play chess at the Marshall Chess Club in New York City. There he met many chess greats including Larry Evans and L. A. Horowitz. As Joe's teaching and research career grew, as well as his family of four children, he gave up playing chess. However, from 1972 to 1975, and again in 1979, Joe conducted a Chess Marathon at the Greenbelt Labor Day Festival. He challenged all comers, first come-first served. The first few marathons were sponsored by Greenbelt CARES, but the 1979 marathon benefited the Prince George's County Chapter of the National Organization for Women. Initially, in 1972, he played 16 games simultaneously, both in the afternoon and evening. In subsequent years, he pared down to one

evening Chess Marathon, playing 10 or 12 games simultaneously. This feat has been unmatched in Greenbelt's history.

In 2012, at the News Review's 75th anniversary dinner, Joe announced the establishment of the Dorothy Sucher Memorial Fund which would commemorate the life and work of his late wife Dorothy. The Greenbelt Museum and the Greenbelt News Review would each receive a \$1,000 annual award to be given to deserving interns.

Dorothy Sucher's Letter to the Editor of the News Review in 1972 began a decades-long dialogue over the establishment of a museum. Commemorating the city's 50th anniversary, the Greenbelt Museum came into being in 1987 largely due to her early efforts. Three Dorothy Sucher-funded interns have worked at the Greenbelt Museum over the last few years. They have assisted the museum director



and the education-and-volunteer coordinator with the planning and execution of educational programs, collections care and cataloging, maintenance of the historic house, historical research, and administrative tasks.

Dorothy Sucher was an important player in the News Review for most of her life in Greenbelt. The newspaper likewise has benefited from the intern program funded by the Sucher family. News Review interns report on council worksessions, they attend baseball games, they are at art openings, and, if needed, they go to the pooch plunge. They also join the copy editing and proofing teams, learn to pitch stories and get to know Greenbelt. At the News Review, our interns see the paper from the beginning to the end. They have a chance to really learn what it takes to create a good local paper, a piece of knowledge that should be useful for the rest of their careers.

REMARKS BY RON SUCHER WRITTEN FOR JOSEPH SUCHER'S MEMORIAL:

We read from the book of Job (left to right):

There is no replacing a person of wisdom. There are mines for silver,
And places where gold is refined. Iron is taken from the earth,
And copper is smelted from the rock. But where can wisdom be found?
And where is the source of understanding? There is no replacing a person of wisdom.

Joseph Sucher, my uncle Joe, or Joey, as many in the family called him, was a person of great wisdom. He was named after his maternal great uncle, Rabbi Joseph Robinzohn, as well as the revered biblical character "Joseph" from the book of Genesis. The biblical Joseph, like uncle Joe, was of course also a wise man, having used his insight to manage the pending famine in Egypt and secure power for the "good" Pharaoh during those difficult times.

Aside from that, the points of comparison are a bit less compelling. The Joseph of biblical times interpreted dreams - both his own and that of others, to help him reach his conclusions. Uncle Joe preferred to use models and equations to substantiate his theories. The Joseph of biblical times proudly dazzled with his coat of many colors, even to the extent of inspiring a modern musical. Uncle Joe probably didn't place fashion as high up in his personal value system. Though quite outgoing, he didn't need to be the most colorful character in the room, instead concentrating on being a role model for kindness, fairness, and scholarship. The Joseph of biblical times spent much of his life negotiating conflicts and complex issues with his brothers. Uncle Joe showed nothing but love and respect for his siblings. I know this first hand because Joe was my father Harry's brother. They were alike in many ways; similar in appearance, similar Viennese accent, similar love of learning, similar gift of creating rhythmic song parodies and poems, similar system of values, and similar sweet disposition. Heck, they even each had a twin sister!

My father was a very good chess player, and Joe of course was a chess master, something he aspired to become from a very young age. So back in the late 1960s during one of our family's annual trips to Greenbelt, when my cousin Mike and I heard that our dads were going to play a game of chess, we excitedly huddled around them as competitive little boys will do. Well, it didn't take long for us to realize that competing with each other was the last thing that was on our dads' minds. Now my recollection may be slightly fuzzy on this point, but it seemed like

it took them an hour to make about five moves between them; instead choosing to ramble on about what chess greats like Capablanca and Lasker would do. I do remember that a few years later when I spent a couple of weeks with my cousins out on Long Island, Mike and I recalled that time and reminisced how their objective was never to compete with each other, but rather use the opportunity as a teaching moment for their sons. Joe's passion for these types of teaching moments extended of course to his wonderful career as a professor, and even through his retirement. His extraordinary ability to absorb concepts of the utmost complexity was surpassed only by his enthusiasm to enrich the knowledge of others. "A gentleman and a scholar" is a phrase that's overused, and usually in a lighthearted manner, but one very appropriate to describe Joe; a man who dedicated his life to family, learning, teaching, and sharing.

O G-d, full of compassion, Who dwells on high, grant true rest upon the wings of the divine presence, in the exalted spheres of the holy and pure, who shine as the resplendence of the firmament, to the soul of Joseph Sucher; beloved son of Max and Toby, beloved brother of Harry, Lilly, and Erica, beloved husband of Dorothy, beloved father of Gabriel, Michael, Anatol, and Anne, beloved father-in-law to Ann and Carol, beloved grandfather to Rachel, beloved brother-in-law, uncle, cousin, friend and colleague to so many, who has gone to his heavenly world. May his place of rest be in the Garden of Eden. Therefore, may the All-Merciful One shelter him with the cover of his wings forever, and bind his soul in the bond of life. May he rest in peace; and let us say: Amen



THE ERASMUS FOUR



GEORGE LIPKIN: I am profoundly saddened by the passing of your father, my oldest friend, greatly cherished for his humanity, brilliant mind and irrepressible wit. We first met when he joined my 7th grade elementary school class in 1942 shortly after his family arrived in Brooklyn after their long and difficult journey. Our two apartments literally faced each other across Franklin Avenue so that as our friendship developed, I got to know and

appreciate his family from my occasional visits. His buoyant spirit, wit and sense of humor were even then evident. We later attended Erasmus Hall High School together, and though our paths then diverged we still managed to meet occasionally on his visits to NYC when I heard about some of the fascinating work he never ceased to enthusiastically embrace. He was extremely modest and self-effacing. It was a rare privilege to have known Joe, a beautiful human being.

Memories of Joseph Sucher, physicist and amazing human being

by Francis Mechner

It was February 1946. "You seem to have a Viennese accent," I said to a kid in the Erasmus Hall High School locker room when I overheard a remark he made. "That's right, and so do you," he responded. We exchanged names and a minute later established that we had lived a few blocks from each other in Vienna and had gone to the same school, in 1938 when the Nazis moved in and chased us out. We had both seen Hitler's motorcade from our windows as it passed in front of our apartment buildings on its way to his notorious Northwestbahnhof speech. And we both had harrowing odysseys in our eventual escape to the United States.

When Joe and I met up again the next day, he was all excited. "My parents want to know whether you are related to their former Viennese doctors, Dr. Benjamin Ziegler and Dr. Adolph Mechner." Yes, I said, Dr. Mechner was my father and Dr. Ziegler my grandfather. Joe and I had grown up reading the same children's

books, singing the same songs, savoring the same foods, listening to the same music, and absorbing similar values.

We had both grown up in the culture that occasionally produced people like Joe—the pre-1938 Vienna that spawned the likes of Gustav Bergmann, Rudolf Carnap, Otto Frankel, Sigmund Freud, Kurt Gödel, Franz Kafka, Hans Kronberger, Gustav Mahler, Lise Meitner, Otto Neurath, Max Perutz, Artur Schnitzler, Arnold Schönberg, Bruno Walter, Victor Weisskopf, Ludwig Wittgenstein, Stefan Zweig, and countless other luminaries. Joe never lost his reverence for that world. One time in later years, he gently berated me for not having made greater efforts to preserve the musical legacy of my New York piano teacher and cousin Leon Erdstein, who had been an eminent Viennese composer and concert pianist. Joe was right.

Joe and his twin sister Erica were the younger of two sets of twins, the older one being Lilly and Harry (evidence of his mother's great efficiency, Joe would explain). The three of us, as Erasmus freshmen, quickly became best friends (which we remained for the rest of our lives), and for the next few years spent most of our spare time together. Joe and I talked and talked, listened to classical music, and went to the movies, the park, and the pool parlor. When it was time to go home to sleep, one of us would walk the other home—a 15-minute walk. Upon getting there, the other would say, "Okay, I'll walk you back," so that our conversation could continue. This might go on for several cycles, until both of us were exhausted and "talked out." We were among each other's last links to our irretrievable idyllic Vienna childhoods—we shared precious memories of the kind that create life-long bonds.

But our friendship was based on far more than common roots and memories of Vienna. When I met Joe, what shone through immediately were his joyousness, good humor, warmth, and whimsical wit. The other qualities that soon became evident were his kindness, generosity, modesty, and commitment to truth and beauty. His pursuit of ideas and curiosity knew no bounds.

To make good contact with his intellectual prowess one needed to engage with him in some substantive way. Shortly after our meeting, Joe showed me a brilliant chess game from a tournament in which he had defeated the U.S. female chess champion Gisela K. Gresser—a spectacular accomplishment for a 15-year-old who had only recently learned to play. As captain of the Erasmus chess team, he once

drew with the top young American grandmaster George M. Kramer. Joe was also a good blindfold chess player (playing without sight of the board or pieces). I learned that the U.S. chess world of 1946 considered Joe one of its rising stars.

But Joe wasn't sufficiently competitive to care much about all that. What excited him about chess, more than competition, was its aesthetic aspect—the beauty of chess problem “compositions.” This arcane art form is divided into such thematic categories as “mate in two moves,” “mate in three,” and many other themes. Joe was an accomplished chess problem composer—one of his lifelong interests—and thus a member of the elite problem composer fraternity. His artful compositions reflected his ingenuity, creativity, brilliance, and wit. This will not be surprising to anyone who was familiar with Joe's virtuosity at solving problems or puzzles (he was captain of Erasmus's champion math team); this problem-solving talent may have manifested itself again when he applied it, in future years, to particle physics.

Not long after I met Joe, he informed me, to my shock, that he had decided to quit chess. It was interfering with his schoolwork and other interests, he explained. Though it took a lot of his will power, he stuck to his decision. Four decades later, when playing some casual chess with Joe, I observed that he had not lost his exceptional ability to identify a position's essence and come up with surprising and creative ideas. At that time, I was also treated to a related manifestation of his intellect while teaching him to play Go, the ancient Asian strategy game. I had taught numerous people how to play Go over the years but had never seen anyone grasp the key tactical and strategic concepts as quickly as Joe did that afternoon.

Joe's retirement from chess at age 15 did not prevent him from giving me chess lessons. In return, I gave him almost daily piano lessons, with the results manifested in his “repertoire” sheet: the impressive list of classical piano works he mastered (see 90th birthday memorial book), no small achievement for a pianist who started at age 15. Our shared love of classical music, along with chess, created some of our strongest bonds.

Joe and I had a memorable, formative experience a little more than a year after we met. The war had recently ended, and some survivors of the Nazi concentration camps had come to New York. Joe and I were introduced to three boys, around 16 or 17, who had grown up in Minsk, Belarus. They had survived a

death camp and were being resettled in our Brooklyn neighborhood. They were athletic and very smart—no wonder they were able to survive the camp, we thought. We became good friends with them and often went to Prospect Park for some soccer (they called it football). We were impressed when one of them, Kurt, a blond bespectacled boy who happened to be a chess player, was able to break even with Joe in a few games they played.

Another of the boys regaled us with stories about their time in the concentration camp—for instance, how they would risk their lives to sneak from the boys' barracks to the girls' barracks in the middle of the night by climbing through windows in their night shirts. Joe and I remarked on their attitude—no bitterness, anger, or obsession with revenge. They were just proud to have survived and eager to move on. Could those friendships have planted the seeds of Joe's later activities to assist Soviet dissidents?

Upon graduating from Erasmus in 1948 (along with our classmate Eric Kandel), Joe's and my paths separated. Joe went on to Brooklyn College, where he met Dorothy Glassman, his future wife. Our paths merged again in 1952 when Joe and I became colleagues in the Columbia University Graduate Faculties of Pure Science, Joe in the Physics Department, and I in the Psychology Department.

We now lived within a block of each other, had many mutual friends, and often got together. Dorothy had a beautiful voice and I would accompany her at the piano in her renditions of Schumann and Schubert Lieder, to Joe's great delight. Joe told me about his inspiring new relationships with Professors Polycarp Kush, Henry Foley, Charles Townes, and others, and about his growing excitement about the world of particle physics. Joe and I both received our PhDs in 1957.

Professor John S. Toll then recruited Joe to the University of Maryland Physics Department where Joe won numerous awards and honors and remained until his retirement. It was only this year that I became aware of the great theoretical significance of many of his achievements in his years at U of M. When I came to visit Joe in Maryland, I usually found him stretched out on the living room couch, pencil and yellow pad in hand, scribbling awe-inspiring mathematical equations. When he tried to explain some of his work to me (usually unsuccessfully), he characteristically downplayed its importance. Yet he was always admiring, praising, and citing the work of others, both in physics and in other disciplines. I

am not the least bit surprised by the affection his many students and those with whom he had professional contact are now expressing for him.

Many who knew Joe well had occasion to witness his enviable temperament. He suffered many unfathomable personal tragedies, including the loss of two of his children in their prime, and then his adored wife Dorothy. Such losses would have shattered most people or sent them into prolonged depressions, but Joe always preserved his optimistic outlook, sense of humor, positive energy, and disposition to give to others, even as he grieved. When speaking about one of his losses he might cry a bit but then quickly recover his sunny disposition. He prided himself on his resilience and "ability to absorb blows," as he put it. He never complained or felt sorry for himself, and I don't recall ever having seen him angry.

I miss Joe terribly and will miss him for my remaining days.

Pierre Sikivie and the problem of Long-Range Forces from Neutrino-Pair Exchange

I was sad to learn of the passing of Joe Sucher. I was a postdoc in the UMD particle theory group from September 1975 to August 1977. Joe and I did not collaborate on any papers, but I was very fond of him and admired his *joie de vivre*, good-naturedness and intellect.

Some years later, I came to appreciate more fully the work he did with Gary Feinberg on the force due to two-neutrino exchange. I was attending a workshop on neutrinos at the Aspen Center for Physics. There was at the time some lore that the force due to two-neutrino exchange is of order G/r^4 where G is the weak interaction constant and r is distance. It occurred to Steve Hsu and I, that if the lore is correct, the force due to two-neutrino exchange might be measurable in experiments that look for small deviations from the gravitational force law. So Steve and I set out to calculate what the force is precisely. After some work we found that it is not of order G/r^4 but of order G^2/r^6 which is much smaller and certainly out of reach of present-day experiments. We were disappointed but decided that we should publish our result since it disagreed with what at least some people thought. The referee report for our paper informed us that the force due to two-neutrino exchange had already been calculated, 25 years earlier by Feinberg and Sucher. The referee was in fact Joe Sucher. He generously recommended that our paper be published 1) because although the result was not new it was good to have an independent corroboration, and 2) he felt that we should be "rewarded for our effort". I very much appreciated Joe's kindness. He was a gentleman in the best sense of the word.

"I LOVE A PIANO" Joe's Piano Repertoire:

Recarni: Old Repertoire

Sarabande in D (Frisvite #1)

Bach: { Prelude o Fugue in C minor *
Prelude in E♭ minor *

Mozart: { Sonata in C
Sonata in G
Turkish Rondo *

Beethoven: { Sonata in F minor
" " C minor
" Pathétique *

Chopin: { Waltz in B minor
" " E minor
Nocturne in C#
Prelude #15 in D♭ *
Fantaisie Impromptu *
~~1 ETUDE #13 #3~~

Schubert: Impromptu in B♭.

(A) Lear: Brahms { Rhapsodie in G *
Wal { Waltzes?
Scherzo in E♭

Chopin ETUDE #3, 13

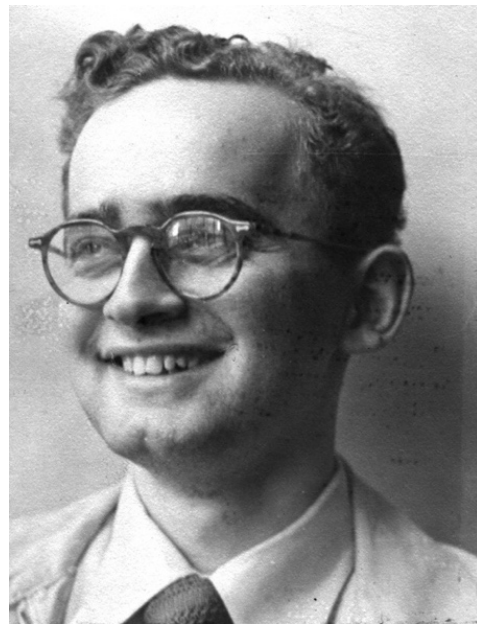
List: Consolation #3

Schumann: Prophet Bird.

Chopin: { Etudes in A♭
Mazurka?.



This was Joe's Steinway Piano we had growing up in Greenbelt. It was originally purchased from the in-laws of Joe's high-school friend and piano teacher Francis Mechner. Coming full circle, when my parents moved to Riderwood in 2004 they sold this piano to Francis' son Jordan.



WALT AND ERIKA RYBECK: *Being friends with your parents was a special highlight of our years at Riderwood. Their wonderful stories, their keen sense of social justice, their multiple talents, their ability to be life of the party despite family traumas—all these were a wonder and inspiration. Just as we can never forget Dorothy's moving account about tracing her family's roots, Joe's rhymes, chess exploits and uniquely Viennese comic-cynical outlook on humanity will long be remembered. We will greatly miss our frequent get-togethers with Joe—a kind, and loving friend.*

EVE SIEGEL: *Your dad was beyond wonderful—as was your mom. They welcomed me when Anatole (Beck) and I found each other and set stunning examples of Menschlichkeit.*

MARYSE KLEIN: *We will miss his brilliant participation in our French class as well as his wonderful sense of humor. He used to put together crossword definitions, all with a French relevance, to challenge the students in class. They loved it! It was fun and rewarding for everyone. I have taken it upon myself to continue this game during class, with a fond mention of him. We call it: "les mots de Joe". You see, he lives on in many ways.*

EDITH BEAUCHAMP: *Both your parents were such supports for my mother, and there were many years when we were young that my mother relied on their friendship to "make it through." Having both of them as friends was part of what made Greenbelt special for her. I have never forgotten their hospitality to us when we spent several weeks in Geneva with your family during the summer of 1964.*

HOPI AUERBACH & JOHN GARNER: *When we were around Joe, we felt valuable and important, even if we weren't accomplished physicists. He didn't seem to hold it against others, that we might not have made such prestigious achievements. Instead of being impatient, he respected people who were endowed with the usual amount of brain-power.*

Joe Sucher was a friend through good times and at times of sadness. We loved his generosity of spirit, smile, and warm-heartedness. His family, friends, and vast interests are still inspiring. For all the wonderful things we appreciated about Joe while he was alive, it's amazing how many more facets of his life there were, that we knew little or nothing about!



EVELYN (“EVI”) TORTON BECK: *Joe Sucher was a most unusual man: brilliant and modest, compassionate and warm, ever ready with a most winning smile. His wit was legendary (especially his passion for puns, which succeeded so well they made you cringe!) I knew him since he married Dorothy, my best friend in college and till the day she died. I knew him as a wonderful husband and father, but he was also always a true friend to me. My life is richer for having known him.*

Sophie Cook: My memories of my friendship with Joe are those of a one that took place late in both of our lives — but, although this might surprise younger readers, one enjoys new friends as much as old ones, in spite of age. We met at a Thanksgiving dinner at my friends Judith and Paul Plotz, who had known Joe and Dorothy in Vermont. Joe asked me to dinner and I was rather charmed to be the object of an immediate proposition. I declined, but suggested friendship instead.

In fact, we had a lot in common and over the next few years, enjoyed occasional outings to concerts, theatre, and opera, but mostly, regular “coffee klatches” at my Washington, DC apartment. I was grateful for Joe’s willingness to undertake the long drive over to my place because I am finding such car trips difficult. We talked about family, friends, books, politics, and in the process, I got to know a lot about Dorothy, Joe’s late wife. I wish I had known her in person. I read her books and watched a video she made about her trip to Belarus, in search of her family’s Jewish roots. She sounded like a delightful, lively person. Of course, he missed her greatly.

Like other educated European refugees, we were not nostalgic about our past. Rather, we were grateful to have escaped the Holocaust, unlike so many of our Jewish contemporaries in our countries of origin. To have been young enough to complete our education in the US, followed by fulfilling careers, made us both more focused on our blessings than on our losses.

I had great respect for Joe’s scientific knowledge and often asked him to explain aspects of science that I had read about. I can’t say that I always fully understood! My own education centered on law and political science, and I always regretted that my inability to master calculus my sophomore year at Radcliffe put an early end to pursuing further what I had learned in the course in the history of physics that I found fascinating. After becoming a lawyer, I spent much of my free time writing fiction and historical fiction. Joe became a helpful reader of my work, giving me good comments and corrections. I, in turn, read his memoir about escaping Vienna through Luxembourg, with his brother and sisters, before reaching the United States, where he completed his education.

Friendship, at any stage of life, enriches ones’ life and gives an unalloyed pleasure. I am so glad to have enjoyed the friendship of someone like Joe, who could bridge science, music and literature. I will remember him as long as I live.

ARJUN YODH: *I was very fond of your dad. I would go over to your house, mainly to play with Michael, but your dad engaged with us and was interesting to me in so many ways -- from commentaries about chess to commentaries about classical music and more. He was very obviously a thoughtful, generous, and empathetic man too.*



MAYA YODH: *He was such a kind human being. I have such fond memories of him at your house, at our house, in Deep Creek Lake. We enjoyed some wonderful family experiences.*

SARA AND PRONOB MITTER: *We have fond memories of the grand old days, the late 1960s at University of Maryland. Pronob had done a post-doc at Santa Barbara, and when we returned to the East Coast, Joe and Dorothy*

were among the first to welcome us. From time to time we dined with you all around the table in Greenbelt. In later years, we saw some of you in Paris, and eventually Joe alone when he made a farewell tour of friends in Europe. His European roots were strong. "Joe Sucher was a remarkable human being who combined lively intelligence with sweetness of character. His sly sense of humor was much appreciated, as were his talents as a writer and speaker.



BARBARA MCGREW: I knew your father (and mother) since the late 1970's when I was living in Madison and seeing his good friend, Anatole Beck. Coincidentally enough, many years later, I married Joe's friend and colleague at the U. of Maryland, Daniel Fivel. So Joe came back into my life. He visited Dan and me often in Vermont, and me many summers after Dan died. His charm, erudition, humor and wit can be seen in this poem, which he wrote for our wedding. He was Dan's best man. I will miss Joe always.

MY FATHER OFTEN WROTE VERSES FOR HIS FRIENDS FOR SPECIAL OCCASIONS: This was written for the 2004 wedding of long-time colleague Dan Fivel to Barbara McGrew.

A Trilingual Wedding Toast
Here's to Barbara McGrew,
Whose beauty's matched by very few,
And to Professor Daniel Fivel,
Whose wit and charm have no real rival.
May they always be gesund
And live happily in Vermont!*

**English, Yiddish, and Abenaki*

RECOLLECTIONS OF ANAND BHATIA: He told me that he saw a notice at the New York Meeting about jobs in physics department of the University of Maryland. Call John Toll if interested. He called and was interviewed around 5 a.m. and got the job.

To come to College Park, I travelled by a ship. It took a month. When I saw John Toll in his office, I was told my teaching assistantship has been cancelled. You came too late. Now you see Dr. Sucher and work with him. I went to see him. He asked what I was working on. I mentioned that I have finished working on a problem. However, my advisor in Delhi University never paid any attention and that is why I left. Joe got very interested in it and spent weeks going through every step. Konishita and Nambu had worked on this problem too. Their result was not the same. Joe wrote to one of them. He got the answer, 'We both worked independently, don't know why we got a wrong result.' One of them got a Nobel Prize after some time. I felt like being in a haven working with him and he helped me throughout. I owe him a lot.

In 1980, he spent his sabbatical year at Goddard on a senior fellowship of the National Academy of Science. One day he complained to me that he does not like his room. There is no window. Perhaps, he could not see what was happening outside. I asked him if he would like to share my room. He was happy and moved in immediately. He was now close to Dick Drachman and Arron Temkin. There was a wall-to-wall window and the room was very bright. Soon, we worked on a paper on hyperfine structure. He was also working with Gary Feinberg and used to talk to him for hours on the phone. Then he would complain that his ear hurts. That was another complaint about his room not having phone to call everywhere. I heard his talking with Feinberg. I mentioned an accurate way to do the problem. I worked with him. I became a coauthor on their paper! All this would not have happened if he had not complained to me. During that time, he also published a paper with Dick Drachman. We moved from one building to another over the years. However, we three had offices next to each other. Everybody gathered in my room for coffee and everyone had specific chair. Luckily, my room was well furnished.

I saw him many times playing chess with someone or the other. He was good in anything that he got interested in. I have always admired him. He was a witty saint. We all miss him.

Excerpts from *On the Retirement of Joe Sucher* by V. Hushwater, Dec. 17, 1998

I could not get a Ph.D. in the Soviet Union [where I lived] in spite of the fact that I worked there in applied physics research. So there I was in my forties at University of Maryland, exhausted by years and years of the fight for emigration. Having difficulties focusing on any particular field I was wandering around trying to work with a number of professors... not fully satisfied by the topics of research they wanted me to do. Joe Sucher was one of them.

After I ran short of possibilities, I began the second round, but apparently none of these professors wanted to start again, probably, feeling the lack of commitment on my side. Only one person, after some struggle and resistance, decided to give me a second chance. This was Joe. Maybe he was tempted by the opportunity to discuss chess with me... or, maybe, being a very nice person, he could not just kick me in the... let's call it the lower back.

Joe told me that I should develop a microscopic theory of the Casimir force between macroscopic bodies. He added, "But I do not believe that you will do this." And you know, he was right. I never did it. Meanwhile salvation had come in the form of a new problem, to explain how it is possible for the Casimir force to be negative, i.e., repulsive in some cases. In connection with this, Joe had a brilliant

characteristic comment, to which I referred later in my paper on this problem, "Understanding of signs is a sign of understanding."



An Ode to Joe by Thomas B. Day 3/25/2005

All those many years ago
And endless games of GO
Who could believe or even know
The Poet in our Joe.

In office off the lobby
Led by the peerless Snow
The threesome till their hobby
The apprentice and sorcerer Joe.

Expat from New York's Columbia
Graduate of Cornell's Ithaca
One a Brooklyn citizen
The other Manhattan denizen.

Two score and eight the years go by
As separate paths diverge
Two to fourth by three do fly
'Til once again they merge.

So search the happy memories
That lives full measured show
To find among the euphonies
This tinkling Ode to Joe

Joseph Schatzi Sucher,

Schatzi means sweetheart in German. So when I called him, I would say "hello schatzi" and he would laugh and we would laugh a lot together.

Joe and I were both born in Vienna, Austria. We went through the holocaust and did not know each other until we came to Riderwood.

Joe had a wonderful sense of humor and we laughed a lot together. We had our somber moments as well but we decided not to dwell on those very long. Joe was also one of the smartest men I ever knew. I miss him so very much.

Trudy Schonberger

Angehörige

Verwandtschaftsgrad	Name	Geburtsort	Geburtsdatum	Beruf
1) Gattin	Lanbe	Wachkautz	10. V. 1897	Schneiderin
2) Tochter	Cecilie	Wien	28. VII. 1925	Wirtschafterin
3) Sohn	Harry	Wien	28. VII. 1925	- " -
4) Tochter	Erika	- " -	10. IX. 1930	Choristin
5) Sohn	Josef	- " -	10. IX. 1930	Schüler
6)				
7)				
8)				
9)				
10)				

Welche der obgenannten Angehörigen sollen jetzt und welche später auswandern?

alle sollen jetzt auswandern.

Wien, am 1. Juni 1938

J. Sucher
Unterschrift.

Memories of the Suchers: Joe, Dorothy, and Anatol

By Janice Lynch Schuster

Although I met Anatol when we were 15 or 16 in a guitar class at Eleanor Roosevelt High School, where I was sent (forcibly! to be a techie), we never spoke of our parents. What did parents or siblings matter when one had important things at or in hand, like a guitar or a new riff? I no longer play the songs Anatol taught me, but I remember his great patience as he taught me song after song, as if he were an on-demand guitar instructor. I marveled at his ear and his ability to play almost anything, with no idea that his ability came from hours of practice at home.

Nor did I know that that gentle, musician's nature might have come in part from his father, Joe; that his creative bent might have come from his mother, Dorothy; or that, like me, he came from a large family that hustled its progeny along, struggling from complex day to day. In fact, I was 30 before I knew that his mother was (like me) a writer, and a remarkably successful one, or that she'd been an early feminist, engaged in a Supreme Court case on freedom of the press, and so much more. I could not believe that I had not heard of her mystery novels, and it was a few years later, upon publication of her marvelous collection of essays about her fixer-upper in Vermont, that I actually met her in person.

This also meant meeting Joe for the first time—I am certain I was one of many generations to be charmed by Joe's stories, his lively blue eyes, his brilliance, and his humor. I happened to have some of my children with me, and Joe had a few chess games going, as any chess master would. My then 12-year old son spied this and asked Joe if they could play. Conor was sure he'd win. Joe disappointed him on that count, but with kindness.

Several years later, I attended the memorial service for Dorothy Sucher, a woman whose work—including her art—had come to inspire and teach me. At that service, Joe told a story about how he and Dorothy had met. Wanting to be sure to remember, I turned it into a poem, which may or may not have the facts straight. When I told the poem to Joe last fall when his illness was gaining on him, he laughed, delighted that I had remembered. Here it is:

At the Dance – For Dorothy and Joe
Yesterday a perfect sun rose.
“Shall we dance?” he asked.
“I'm not giving lessons,” she replied.
Something like love came later;
His Old-World voice his eyes the music
Of his fingers cupped along her spine,
A certain light slanted on the city,
Not a cloud in the sky,
Who know what life would bring...

Last summer I found myself keeping Anatol company as he tried to negotiate his father's final illness. We had dinner together a few nights, one of which included Joe telling us about a revered holy man of his childhood who was known as a priest. Puzzled, Anatol pressed for more. Finally, Joe came up with the word: A Kohanim. Not a rabbi, but someone who could perform blessings and certain other religious acts when needed.

One afternoon while I was visiting Joe asked if I'd take his copy of the English Romantic poets. He'd been taking a class but was not often able to make it. "They like the sound of my voice," he said. "Who doesn't?" I asked.

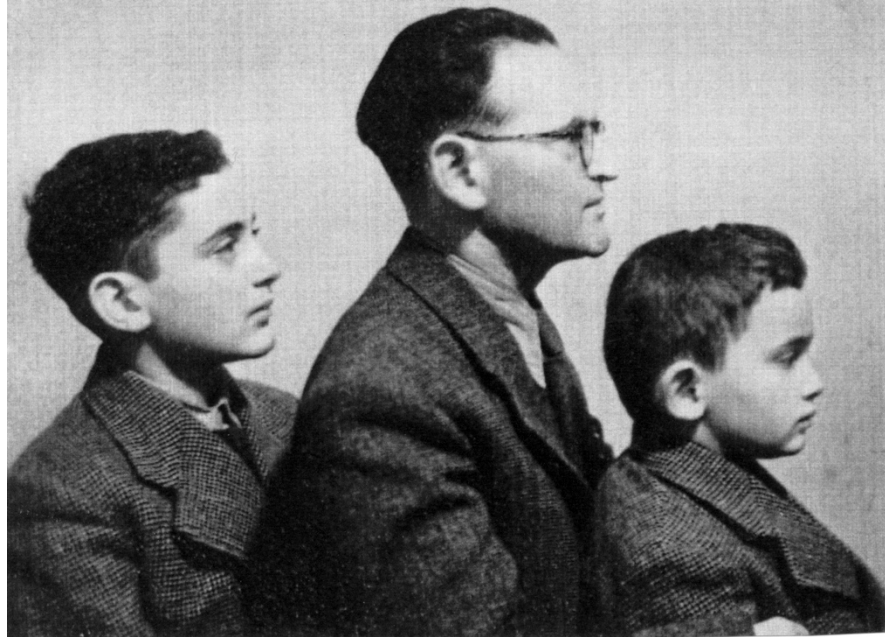
At about that time, I'd heard about an English folk belief, where the bees went to heaven to tell G-d that a person had died in a household. It was important for families to keep bees, and that the bees carry out this journey. For some reason, I sent the poem, which a friend had illustrated, to Joe. Ann, his daughter-in-law, liked it so much that she hung it on the fridge. I imagine that the bees have spent all year, spreading the news that a great man, whose spirit seemed so beautiful to me, has left us.

Here is the poem. May his memory be for a blessing, as my Jewish friends say. I hold him in the Light, as my Quaker friends say. My heart misses him, especially that light in his eyes.



LUCK WAS ON OUR SIDE

**Escaping from Nazi Europe
1938-1941**



In the early 2000s Joe assembled a memoir “Luck was on our Side” recounting his family’s escape from Austria.

“SERPA PINTO: The Portuguese Ship that took us to safety”



Joe with twin sister Erica, age six.

