## IN MEMORIAM

# Martin Shubik



March 30, 2019

## Speakers

Claire Shubik-Richards
Pradeep Dubey
Albert Madansky
Anna Shubik Sweeney
Tom Quint
John Geanakoplos
Tom Krens

Please join us for a lunch reception following the speakers.

### Remembrances

Martin Shubik, a true polymath.

John Meisel

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I remember Martin as a fine human being as well as a splendid scholar. Herb Kaufman

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I think the most important thing that can be said about Martin scientifically is that he is simply the father of the application of game theory to modern economic theory — an immensely important contribution. Von Neumann & Morgenstern's book is called "Theory of Games and Economic Behavior," and indeed they must be credited with the fundamental idea of studying economics with Game Theory tools; but their approach — Stable Sets — never really caught on. It was Martin who made the highly successful connection of the Core with the Competitive Equilibria, and this is what got started the ball rolling.

Robert Aumann

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My first encounter with Martin was indirect and it occurred in 1974, when Lloyd Shapley showed me some postcards sent by John Nash. One of these had a nine digit number surrounded by \$ signs, along with the note "We shall have to ask Shoobie Woobie about this"..... It seems that Martin's lifelong preoccupation with the "Theory of Money & Financial Institutions" (which, by the way, was even in the subtitle of the chair he held at Yale), had already begun when he was a graduate student at Princeton, sharing lodgings at the time with Nash & Shapley.

I actually first met Martin in 1975, when Julie and he picked me up for dinner, on the evening before my job talk at Yale. It was by far the best Chinese meal I had ever had, and it led to such a sleep of contentment that I missed all the appointments the next morning. Martin was so kind as to reschedule them, starting with Professor Koopmans at 30 Hillhouse Avenue. When this meeting finished, however, the revised schedule had vanished from my pocket. I remember running back, totally flustered, to Martin's office at 56 Hillhouse. There was a broad smile on Martin's face as he handed me a piece of paper, saying "Don't worry, Pradeep, I have made ten photo-copies. Here is the second one." The ease with which Martin could predict my behavior — on this and on subsequent occasions — was a thing of bewilderment for me.

Once I moved to Yale, there were periodic invitations for dinner to the Shubiks' beautiful home on St. Ronan Street. The evening often began with all of us in attendance upon little Claire, but in a short while Julie would go off with her, leaving Martin and me alone for the hour-long session of prayers that were deemed by him to be absolutely mandatory prior to dinner. The religion was, of course, Game Theory and the minyan often consisted of just Martin and me. On one such occasion Lloyd Shapley also happened to be present, as house guest of the Shubiks. Much of that afternoon was spent in animated discussion with "The Knight of the Gnarled Fist," as Martin liked to call Lloyd, but finally the two of them settled down to a game of Go, at which point I left for home. Upon my return at dinner time, three hours later, the game had gotten over, but Lloyd was busy expostulating with Martin on the manner of its play .... in particular, on how any rational opponent would have responded otherwise, but Martin had made such an outlandish move on the 37th round, that there was no option left for Lloyd but to go on to lose! Martin was to tell me afterward: "No matter what happens in the game, Lloyd always wins the analysis."

There was never a dull moment with Martin! Not only in Game Theory, but in every other respect, he lived life to the hilt and on a grand scale. Life around Martin was erudite, eventful, exciting, entertaining, endearing ..... at times, full of sound and fury, but always signifying many things.

Pradeep Dubey

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Martin [is one of] the three people which had the strongest influence on the development of my scientific personality. This may sound as a surprise, because I never did work together with Martin, nor did I work on game theory at all. It was Martin's deep understanding of economics, as well as his attitude towards scholarship in general, which had this great impact on me. To give just one example, I still remember Martin explaining the difference between a good and an intelligent scientist. Thank you, Martin.

Manfred Deistler

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I took [Martin's] game theory course. He was always traveling so he made up the sessions by hosting dinners at his place. He always served what he alleged was lo mein, along with a gallon of red wine with the price, \$2.29, in white crayon on the side. There were many antic moments, driven by the fact that Shubik wasn't just a mathematical theorist; he had a deep structural understanding of actual games. Once, a Turkish student boasted of his skill at backgammon. Shubik brought a backgammon board to the table and trounced him, easily, multiple times. Each time, after winning, Shubik would glug down a glass (probably ten ounces) of the wine, go to his closet, don a hat from his multifarious collection of hats — a fez, a derby, from a closetful of hats from all over the world — and dance back to the table.

After dinner he would have us play games. Once Mike Gottskind and I were playing Monopoly and I landed on Park Place. Shubik walked over, glanced at the board for just a couple seconds, and said, "Overholt, if you buy Park Place you'll lose within 20 minutes and you'll flunk my course." To me that meant I had to buy Park Place, so I did. I lost the game within 20 minutes. He kindly refrained from flunking me.

For the term paper we had to invent a game. I created a guerrilla warfare game with the ideas that became my dissertation. ... He loved the paper and I exulted in the opportunity to use serious mathematical tools...When I left Yale I assumed I'd never hear from Shubik ... But he remembered my paper and a couple times, spread out over a couple decades, suggested that there should be a professorship for me to do my kind of political science... it never happened. What mattered to me was that Shubik remembered and Shubik cared. We shared a bond. He wasn't just a distinguished scholar. He was a great human being, with a great heart, integrity, and a wonderful sense of humor.

William Overholt

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Martin entered Chile from Bolivia on the first day of the year 1965 and his passport was wrongly stamped as if he had arrived on January 1st of 1964. Because of that when he arrived in Santiago he could not retrieve luggage that he had sent as unaccompanied luggage. He carefully documented the messy process by which he finally got the luggage in June through the intervention of the Ministry of the Treasury. He wrote a brilliant paper: "El costo de la desconfianza; la consecuencia de un pequeño error (The cost of mistrust; the consequences of a small mistake)." I used that paper for many years in my teaching.

Santiago and Ruth Friedman

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I recall him passionately rejecting the notion of a utility function, wise-cracking that a "hard-earned PhD is a way of doing well without the money it prevents you from earning." He loved science and he loved art—a true Renaissance man.

Walter Fontana

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My friend Martin Shubik and I had a common interest in "fressing," especially pastrami. Whenever we got together (usually in Santa Monica or New York, but once in Fort Lauderdale and once in London) we would explore the local delicatessens. When in early 1967 I noted in a New York Post gossip column that Richard Condon (of Manchurian Candidate fame) was commissioned by Holiday magazine to write a piece on delicatessens, I got his address from the magazine (he was living in Geneva at the time), wrote to him (February 13, 1967) proferring our credentials as deli-mavens, offering our services in researching this paper, and challenging him to establish his qualifications for writing such a piece. His reply was a classic letter, and it initiated a round robin of 24 pages of correspondence between him, Martin, and me.

Unfortunately, I have misplaced or lost many of the originals, but have bound together xerox copies of all these letters in a volume I call "The Pastrami Papers." The correspondence culminated with a writeup and discussion of the famous experiment (January 2, 1968) in which Martin and I got together to taste-test corned beef and pastrami sandwiches from each of four Manhattan delis.

The Pastrami Papers became a cult classic. I discovered that lots of people knew about the experiment and asked me about it, and so I would lend a bound copy of the Papers to truly interested parties. One of them was Jack Gould, who, after reading the Papers, suggested that the University of Chicago Alumni Magazine publish an edited version of them. I sent the material over to Don Morris, who edited the Magazine at the time, and it is his editorial eye and hand that produced (under the by-line of Madansky and Shubik) the three page Magazine article which appeared in the Spring 1976 issue.

Albert Madansky

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My history with Martin goes back to 1994 when I was hired as his administrative assistant at the Cowles Foundation. In the beginning, Martin was very intimidating. I never thought of him as approachable to ask for help. It all changed one day when he asked, "Don't you know how to ask questions?" He said it gently and I gathered my courage and looked straight at him and responded "Professor Shubik, if I knew what questions to ask, I would certainly ask them." That was the turning point in our relationship. Martin became my greatest supporter and my mentor.

Martin accomplished many things in his life and I never realized the influence he had and how many people loved and respected him. I am so grateful to him and Julie for taking me under their wing. I was just a small part of Martin's life, but he became a big part of mine. They both believed in me and it was because of their love and support, I was able to accomplish everything I did for the Economics Department and especially for the Cowles Foundation. Martin and Julie will always hold a special place in my heart.

Nora Wiedenbach

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My wife Jerri and I first met Martin in the 1980s at the Albuquerque airport. We were en route to the Santa Fe Institute. Because we had arrived earlier than Martin and had a rental car, we had been asked to await his flight so that we could all drive to Santa Fe together. We did, holding up a small sign with his name. He deplaned, spotted our sign, and the conversation began.

The next day Martin assigned me work on a number of interesting mathematical problems which he maintained were relevant to economic theory,

about which I knew next-to-nothing. For the next 30 years or so, Martin and I, often together with Ioannis Karatzas or John Geanakoplos, worked or "played," as Martin would say, with his fascinating economic models in Santa Fe, New Haven, Truro, or Branford. Martin was devoted to his work and was usually able to keep at it past the hour when his younger colleagues exhibited signs of exhaustion. He frequently awoke the next morning with new insights about the previous evening's work.

These sessions, no matter the location, were followed by delightful cocktail hours facilitated by Julie and enhanced by Martin's entertaining tales, everything from his headmaster-enforced study of Hebrew during Church of England chapel services at his British public school to the exploits of his Princeton roommates John Nash and Lloyd Shapley. These stories, even if sometimes repeated, always amused.

After cocktails came elegant gourmet dinners prepared by Julie and sometimes with Martin's assistance. (As Julie once said, the Shubiks were "a food-focused family.") The stories continued during dinner. I suspect that tales of our foibles showed up to amuse other guests during our absence.

Jerrie and I treasured our friendship with both Martin and Julie and mourn their passing.

Bill Sudderth

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Martin Shubik and my late partner, Erik LaMont, were friends for many years. Some time before I met Martin, he had taken Erik on a mushroom hunt and Erik came home with a bagful. I remembered an experience in the woods near Budapest where I saw a sign that translates as "mushroom-checking station," so I asked Erik if these mushrooms were safe to eat and he answered "if Martin says they are, they are." (I feel like I'm writing this to Julia, because she knew Erik well enough to know how out-of-character that remark would be!) Of course, the mushrooms were not only edible, they were delicious and they afforded me a unique introduction to Martin Shubik, a man of so many interests and accomplishments. Martin and Julia were special people and I will always miss their friendship.

Ellen Taaffe Zwilich

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My husband, Bill Kelsey and I, Jane Kelsey, were very fortunate to have a warm, special friendship with Martin and Julie. It developed quickly after they moved to Rockland Park.

We have treasured memories of evenings together. Bill and Martin discussing politics and reminiscing about their time spent in the US and Canadian navies. While Julie and I chatted in her favourite place, her kitchen, while she finished cooking her amazing gourmet dinners.

After those dinners, we watched together wonderful old, black and white, classic movies. Early on, the TV in the cabinet in the living room was at floor level. There was a tiny button at the bottom that had to be pushed! Julie, with a flashlight, would be on her hands and knees trying to find it. I would pull one of my bobby pins out of my hair and she would push the button with it!

When that was accomplished, we then had to figure out which remote to use and what buttons on the remote to push! Sometimes Julie resorted to calling tech support! When we finally got the movie running we could sit back and enjoy wine, espresso and Julie's melt in your mouth shortbread. Eventually the TV was moved to a higher shelf and we became much more proficient at running it, but we always laughed about Julie on her knees with my bobby pin!

We feel privileged to have had such a warm, affectionate friendship with two such special people. That friendship enriched our lives and will stay with us always.

Jane Kelsey

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As a beginning graduate student, I learned of four legendary names (this was the era of games and economies with a large number of participants): Debreu, Scarf, Shapley and Shubik. I was thrilled to meet the last three in the workshop which took place during the fall of 1965 in Jerusalem. I was very impressed by his ability to translate a problem to his (rather concrete) way of thinking, even if the subject appeared initially to belong to an abstract far-away area.

I spent a sabbatical at Yale during the academic year 1978-79. I had many discussions with Martin at that year. What struck me that unlike many theoreticians, he always insisted that models should be motivated by and applicable to real-life situations. His experience out of academia was instrumental in this. He was one of the few in Cowles who were receptive to unconventional ideas.

He was not a person of understatements. Quite the other way, he expressed his viewpoints clearly, sometimes adding terms like "meshuggas" (craziness in Yiddish) to express his opinion of some ideas. His believed in his project(s), and was able to get others to participate in various aspects of his work.

He continued to be energetic in old age. He could not come to Israel in order to participate in person in the small workshop honoring my retirement, but compensated by delivering a talk via Skype, and taking active part in the following discussion (certain comments made him rethink elements of his paper).

On his 90th birthday I told him and others that the verse in Psalms "They shall still bear forth fruit in old age; they shall be filled with vitality and foliage" is very fitting to describe him. May his memory be blessed.

Yakar Kannai

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#### Shubik's Laws of Long Range Planning

Martin would often address each class at the end of the term and pass out his Laws. My classmates and cohort recall Martin's advice daily. Here they are verbatim:

- 1) There Is No Daddy. (If there is one, it's you. If you don't understand this, then long range planning is not your metier.)
- 2) What Do You Want To Be When You Grow Up? (The importance of this question is not that you have an answer but that you ask it frequently)
- 3) a) Always Leave A Little On The Table For The Dealer. (Las Vegas version)
- 3) b) Make Sure That Murphy Has His Drink. (NYC bar version)

Ed Hirs

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Martin and I, we both loved being close to nature, enjoyed skiing and long trips in the woods. Fortunately, we were both able to go to a summer camp located in a very large Canadian natural park called Algonquin Park. At this camp we became expert in canoeing and taking trips, teaching younger campers and taking them out on canoe trips. We enjoyed being able to make camp fires and manage in all kinds of weather.

I remember once back in Toronto where snow was often deep we enjoyed making a fire in the middle of a ski hill with skiers zooming by. This was our way of expressing to each other our relation. We lit a fire together where it was a difficult task. We used one match. The one match was first held by one of us, then the other held the same match to finish the fire lighting. We called each other "half match" and smiled. It was our little ritual.

One more story: The summer before we moved to Universities, me to Medical school and Martin to Princeton, we went on a longer, more adventurous canoe trip starting from our Algonquin Park and canoed to Ottawa. We had no proper maps, only one provincial roadmap (there was only one road in the park). Nonetheless as pioneers we travelled though dangerous rapids and crossed difficult portages. Martin's skill and humour honoured him with the name "The Black Prince."

The trip took three weeks and when we arrived back in civilisation we were so grizzly and bearded that we laughingly called out to those near the river, "C'est la guere fini" (pretending we had been hiding from military conscription as some of the anti war young people had done).

Warren Brodey

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I took care of Martin the last months he had left. Me and Martin had a lot of fun together. I remember him going up on the roof top and getting him fresh vegetables that he wanted me to grow and make his favorite smoothie that he loved very much. I wish he was still here with us. I remember when at night me and him would watch movies like Casablanca he had a huge smile on his face. He was a amazing person that I loved with all my heart. He used to tell me stories day and night and tall tales at breakfast time. He loved to write all the time looking out on the water and relaxing on his porch. I hope he will rest in piece and always have that great smile on him.

Greg Drwal

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Throughout my childhood visits from "uncle" Martin were always eagerly anticipated. It was impossible not to welcome the booming voice and the brand of snobbery which always included the audience as a party to the inside joke. The sense of humor, the booming voice, and the self-confidence were infectious.

Martin and Julie moved to Santa Monica for a year of sabbatical just as I was entering UCLA. They lived in a gated apartment complex on a hill with a sweeping view of the Pacific. Security consisted of an unmanned barrier gate operated with a security code. Anybody could walk around the gate. As Julie pointed out this provided perfect protection because no self-respecting Angeleno would walk anyplace.

Somehow I suspected food would be better at the Shubik apartment than at the cafeteria. At the time California wines were terrible. To ingratiate myself I took a case of Chateau Julien, the current bargain wine, from NYC to LA as personal luggage and offered this as a move-in gift. It was the best investment I ever made. I was invited to numerous brunches (they were in their exploring-Mexican-food phase and there was a memorable moo shu chicken brunch).

When I married Sabrina we needed a toast from someone with the appropriate gravitas and sense of humor, i.e. Martin. This was his type of wedding; all Chinese food and very little ceremony. He talked for quite a while about Sabrina and I restoring hope in the younger generation because we appreciated good food (especially a good corned beef sandwich), friends, and the better things in life.

Daniel Baumiol

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Martin was profound, ambitious, generous, and whimsical. He never lost sight of his goal, his Great White Whale: a comprehensive theory of money and financial institutions, based on the idea of a playable Game. He had many co-authors who he worked very hard. But he always fed them well. Even his humorous inventions had a touch of genius. My favorite is The Truel, published two years before the three way gunfight in the movie The Good, the Bad, and the Ugly. What is the optimal strategy? Is it advantageous to be the best shot?

John Geanakoplos

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#### Selection from remarks at the celebration of Martin Shubik's 65th birthday

A wall and Martin's research style changed our relationship from collegiality to friendship. Although we had adjacent Yale offices on the third floor of 2 Hillhouse Avenue, the view from mine was north across an alley to a blank wall. Martin's view was westward, not at all

claustrophobic, and I knocked on his door at the slightest pretext. He usually welcomed me and chewed my ear with his current research ideas. Before Martin submitted manuscripts for publication, he extensively tested and refined his ideas verbally. While he spoke he jotted on paper or a blackboard. He chatted in his office, he harangued over coffee, he mused over drinks before dinner, he talked at length during a winter trip between New Haven and Cape Cod in an unheated automobile (with vent jammed open), and he buttonholed guests at social gatherings.

Martin achieved two-fers on many occasions by combining empirical research on trenchermanship and closest packing theorems. That is, his field trips often included squeezing big men into small vehicles. In 1966, for example, Martin, Big Al, and Larry Young drove from New Haven to East New York to evaluate a new deli, Shapiro's (now gone). On another occasion, Martin, Al, and Norman Shapiro drove in a VW bug from RAND (Santa Monica, CA) to check a new deli in the San Fernando Valley. The last example is a trip during which I sat between Martin and Hilare Belloc, Jr., from San Francisco to Carmel, in the cab of a two-passenger Toyota pickup truck with a floor-mounted stick shift and an ill-tempered black Labrador retriever in the truck bed — otherwise, I would have ridden in the truck bed to avoid the permanent cleft in my thigh from the stick shift. The ostensible purpose was to participate in a conference; but we checked whether several restaurants remained excellent.

I wish to thank Martin for his friendship, for which he has a great gift, his many kindnesses, and all that I have learned by listening to him, reading his books and papers, and observing his behavior. The last category includes the defensive use of cigar smoke, attentively listening to seminar speakers while doing research, valiantly soldiering in the poison ivy wars (Old Field, Long Island), discerning the benefit of having an office with front and rear exits, and remaining extraordinarily creative and prolific as the decades come and go and other doyens ascend and decline.

Matthew J. Sobel

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My favorite Martin story started one day when we were discussing some game theoretic topic in his office. Martin was excited—he had a way of exuding enthusiasm even within his slow, stately style. Julie calls: Martin must be home for lunch. So I get up, figuring to make my leave so he could go home. But Martin clearly wanted to continue the discussion, so ushers me to his car and we head over to his house for lunch. An hour or so goes by, with Martin and I discussing game theory in his study, and Julie comes

in again. "Martin, don't forget you have to go to the dentist's office in 5 minutes." So again I get up to leave, and again I was rebuffed. Martin ushers me to his car, and off we go to the dentist's office. The conversation is again all about game theory in the car, and into the waiting room, and would have continued into the dentist's chair if the hygienist hadn't shaken her head no.

Personally he was always very kind to me. He was a presence with prescience. He seemed to know, without me telling him right off, that I had an autistic toddler, that I was going through a divorce, and that I had anxiety about making presentations at conferences. He understood and he accepted, and always tried to help. And any advice he gave was always spot on.

I know Martin cared deeply about his family and his career. He was of course wildly successful with both. But to me he was important as a mentor and friend, and this is how I will remember and love him.

Tom Quint

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After Martin became a Yale prof, he would visit us in Montreal from time to time. His visits were always a highlight in my life, not only because my parents revered all three Shubik siblings, and had very fond memories of their parents, but because I knew we would be treated to erudite, entertaining and hilarious conversations—well, monologues, really—whenever Martin held court. So vividly were his views expressed that I can recall, even to this day, some of our topics of conversation: How to return US railways to solvency; How to fund socialized medicine; Why Irene should come work for the Canadian Broadcasting Corp. (in Toronto); Why Irene should not come work for the CBC (in Toronto?!).

Stephen Shubin

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#### Martin's Famous Congee

by Marilyn and Jerry Bracken

Julie shops for ingredients in New Haven
Julie shops for ingredients in New York City
Julie slices, dices and assembles all ingredients and cooks rice
Julie prepares and heats pan
Martin puts ingredients in pan in proper order and stirs

Result: Hurray for Martin's Famous Congee

## Life After Death

#### Laura Gilpin

#### These things I know:

How the living go on living
And how the dead go on living with them

#### So that in a forest

Even a dead tree casts a shadow

And the leaves fall one by one

And the branches break in the wind

And the bark peels off slowly

And the trunk cracks

And the rain seeps in through the cracks

And the trunk falls to the ground

And the moss covers it

And in the spring the rabbits find it

And build their nest

Inside the dead tree

So that nothing is wasted in nature

Or in love.