

JOHN KENELLY

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When did you get interested in mathematics?

In the 8th grade. My most vivid memories are of Mrs. Young who gave a rigorous elementary course. She encouraged questions and thinking, and she was a warm person. I wouldn't call her a mathematician, but her approach to mathematics was excellent. The norm in my other mathematics courses was rigidity, and we weren't allowed to ask questions.

Did you ever consider fields other than mathematics as a vocation?

Like most kids, early on, I thought I wanted to be doctor. One weekend visiting my lab technician brother in the emergency room cured me of that. I was comfortable with math, and I didn't consider other fields. I just naturally drifted to mathematics. If I had it to do over again, I would do essentially the same, though I would have specialized in financial mathematics early on. I didn't consider insurance or financial mathematics back in the 1950s, because the arithmetic was overwhelming. Now they are very interesting fields. I like to say that mathematicians work with the real and complex numbers, but I like working with genuine numbers -- those that have dollar signs in front.

But you believe in negative numbers, don't you?

Yes, indeed. In fact, I write them in red or put them in parentheses.

Where did you grow up?

I grew up in Bogalusa, Louisiana, which was an isolated one-mill town. My father worked in the mill, as did most of the men in town. At my 50th high school reunion, of the fifty men in my graduating class, 40 of them worked in the mill, and 25 of them were later pink-slipped. Education was not important or even on the horizon in Bogalusa, since it was expected that everyone would work in the mill. The current economy of Bogalusa is a classic example of a mill producing twice as much with half as many people -- and the economic effects on the working class can be devastating.

Where did you go to school?

I left Bogalusa to attend Southeastern Louisiana University in Hammond, which was a very small college. There were six math majors, so we took what they offered and they offered what we took. We did "group work" before it became fashionable. In high school, I had a very nice geometry teacher, but our problems were graded as incorrect if they weren't done as in the notebook that she had in her desk. So I not only had to get a correct proof, I had to anticipate

what she'd find correct. Having to anticipate like this was good training, and I gained more geometric insight in the many alternative ways to prove things. At Southeastern, I took abstract algebra using Birkhoff & MacLane, real analysis, and Dickson's theory of equations. I also studied geometry out of the old classic, but intellectually challenging, book by Nathan Altshiller Court. The fifties were a transition time in the undergraduate mathematics curriculum, from the stale rigid mathematics to the new theoretical proof-centered mathematics.

I then attended Ole Miss (University of Mississippi) which was my first "close encounter" with cutting-edge mathematics. Professor Leland Scott had just returned from a sabbatical at Berkeley, and he taught a course based on notes from Leon Henkin's course. He and the class retoured through Henkin's excellent notes; this was powerful mathematics. My Master's Degree at Ole Miss in 1957 was the capstone to my undergraduate study. Later on, when I finished my Ph.D., Ole Miss was in the throes of integration and this was my only experience hearing battleground newscasters talk of fatalities at landmarks that I knew so well. In 1963, when I interviewed for a job at Clemson, I said that I wanted to see how Clemson integrated before accepting their offer.

After Ole Miss, I went to the University of Florida in Gainesville. The department was in transition from the old guard to the new guard. They were beginning to bring in some world-class mathematicians, and I had the privilege of interacting with some of them. A key figure was the topologist, Don Wallace. I worked with William Hutcherson, a student of Snyder who was a famous geometer at Cornell in the 1920s and 1930s. I didn't care for the problems in algebraic geometry that Hutcherson was working on, so I brashly expressed my lack of enthusiasm. He looked over the top of his glasses and said, "Young man, when you get your Ph.D., you can work on all the interesting problems you want. In the meantime, you'll find my problems interesting." This was my first lesson in humility. After my degree, I spent a couple of years studying convexity by reading papers by Klee, Grünbaum and others, and that became my area of research. Klee was a big hero of mine, a generous and kind man.

What did your parents do?

My father was a carpenter at the mill. He didn't understand how I could have a Ph.D. in geometry and not be able to use a carpenter's square. Every time I returned home he'd ask, "Have you learned how to use a carpenter's square yet?"

Did they influence your interest in mathematics? If yes, how?

Considering that anti-intellectualism was the norm in Bogalusa and in society, my parents were very supportive. They supported my attending college, but they had no opinions about mathematics. They encouraged education, though they

weren't deep thinkers. My father had lived a hard life, and he could see that the educated people had an easier life.

I had an aunt who was an exceptionally strong supporter of education. She was of modest means, but she encouraged all the young people in the family to go to college and she let it be known that she'd help with the costs. Relative to my peers, my family encouraged us in getting out of the mill-class society.

How about siblings? Did they influence your mathematical development? How?

I was the fourth of five children, and we were all first generation high-school graduates and college graduates. We were third generation immigrants. My oldest brother was a successful legendary athlete who played football at Southeastern Louisiana. Later he was football coach and athletic director at the same school. So there was never any doubt where I'd go to college. My other brother became a lawyer. One sister was a home economics teacher, and the other one was a retail clerk in California.

When did you get deeply involved with mathematics education?

Early on, at Clemson, in addition to the usual writing and publishing of research papers, I helped to build the graduate program at Clemson. I worked with several graduate students who obtained their degrees with Bill Hare. At this point, I was involved with administration. I was department head for eight years; I enjoyed it, but I wouldn't do it again. I got involved with the Advanced Placement Program which was used to radically change mathematics education in South Carolina. Then I worked on the College Board and with the AP program. This wasn't MAA work, but is relevant to my MAA career, because it was through the College Board that I got heavily involved with secondary teachers. Though my first wife, Charmaine, was an elementary school teacher, I hadn't been involved with pre-college teachers until this time.

How did you get involved in the MAA?

I attended the annual section meetings in the Southeastern Section, including giving papers and sharing other activities. I joined the MAA and AMS during my second year of graduate school at the same time as my friend Bill Hare did. This wasn't a deep decision; it was just the natural thing to do. Bill and I became good friends, colleagues and co-authors. We gave papers at AMS and MAA meetings every year for about ten years.

Did you receive mentoring in the MAA at the early stages of your career? By whom?

My most significant mentor was Lida Barrett. When she was MAA President or President-Elect, she pulled me into the MAA when the building in Washington was in trouble with structural problems. The MAA had not prudently set aside maintenance funds in a building fund. Lida knew that I was involved with building and banking, and I was experienced in the real estate business in South Carolina. It appeared that the MAA needed to spend \$1.5 million on repairs, so there was serious consideration of selling and moving to Alexandria. But I arranged for the work to be done by a good South Carolina firm for \$600,000. The MAA had half of that, so I directed the second building drive to finance the rebuilding, and we raised over \$600,000.

Early key mentors were Billy Bryant and John Neff, who were officers of the section who took us young folks under their wings. I became Chair and Governor of the section, and I was also the Section Lecturer.

My other excellent mentors were Don Kreider (second only to Lida Barrett) with whom I served on the College Board, Jerry Porter, and Tom Tucker, who was on the College Board and the Committee on Testing.

Nearly all of your MAA work has been involved with finances and mathematics education. Is there a theme here, or did this just happen?

Continued involvement with financial affairs of the MAA seemed natural. I served on the Finance and Budget Committees for eight years, as well as the Investment Committee. During this time, I was ex officio member of the Board of Governors, but I had been on the Board earlier as Governor from the Southeast Section. Then I went into limbo until I was invited to run for president of the MAA, but ran against Ron Graham. Needless to say, I lost to Ron, but this turned out to be for the best in the long run. I was subsequently elected Treasurer for a five-year term. I love working with finance and the longer term with less intense commitment to MAA service better fits my style. I am now enjoying being Treasurer of the MAA and finding it the right level of involvement.

Speaking of which, what accomplishments in the MAA are you especially proud of? I would imagine your work to rescue the IMO 2001 would be near the top.

I've had four careers. First I was a research mathematician and teacher. Then I became an administrator. Then I got involved with education programs, both in South Carolina and nationally. Finally, I am now a beggar, i.e., a fund raiser. This career began when I helped the MAA raise \$600,000 to renovate the building in Washington and later \$3 million for the IMO 2001. Yes, rescuing the IMO 2001 is near the top. A couple of years before the event, the MAA and supporting organizations were very short on funds, and it appeared that the U.S. might have to pull out of its commitment to host the IMO in 2001. This would have been very embarrassing, at all levels.

I was called in, and I was able to raise \$3 million in 18 months, thanks to an amazing accident. In fact, I was on my way to an IMO Board meeting where it was expected that we would have to renege on the U.S.'s invitation to host IMO 2001.

How embarrassing! Here we are the super-power and we can't afford to host an IMO. Vietnam did it, India did it, but not the United States of America.

Yes, 19 countries had hosted an IMO, and here we couldn't afford to host another one; we did host in 1980. Anyway, on my way to the Board meeting, on the plane I found myself seated next to a lady. I was very distressed about the IMO situation; I had thought that I could make it go. So I spilled my guts about my problem. She said that I should talk to her husband. I visualized that she was some corporate vice president's wife and that maybe I could raise \$10,000 from this contact. So I responded, "I don't think you understand. I need to raise about \$800,000 in the next two weeks. Who is your husband?" Senator Trent Lott from Mississippi!

When we landed, I met Senator Lott and we discovered that we had overlapping Ole Miss connections. Another amazing accident is that he was at Ole Miss when the chairman of the mathematics department was head of the athletic council. He was able to help Lott, who was a cheerleader, stay in school by giving him little jobs, and he helped me in other ways. Senator Lott invited me to his office. When he heard about our IMO problems, he kept saying that you can't let that happen; it would be embarrassing to our country. After about the third time, I brashly pointed out that I didn't need people to tell me this; I needed to know how to avoid this. Finally, after consulting his chief of staff, Lott said, "I think we can help you." The result was that we were able to guarantee \$400,000 in 24 hours. Then we were launched, and other people started finding money for us that hadn't been there before. We wouldn't have made it without my lucky contact with Senator Trent Lott.

We raised the \$800,000, and with that we could have hosted the IMO at the peanut-butter and jelly level. With crucial help from Ron Graham, who was on Akami's Board, we were able to obtain another \$1.5 million from Akami in support of IMO 2001. This made it possible to have a spectacular IMO 2001, not just an adequate IMO 2001. I might mention that I interrupted my honeymoon in Bermuda to help close the deal.

Other aspects of my begging career included raising money for cancer research at Duke University, and raising \$3 million in thirteen months for a Hospice House in the Clemson area. Before this, there was no hospice house in the Clemson area. I am especially proud of this last effort, even as much as my work with IMO 2001.

What are your best memories of your work in the MAA?

As I mentioned before, rescuing IMO 2001. More generally, helping the MAA financially, which includes working with the Akami Foundation and with the Halmos Fund. More recently, there's been a steady increase in MAA's net assets. They have doubled post-Halmos. One of my philosophies is the old adage, "before you can do good, you have to do well."

What are your worst memories of your work in the MAA?

There was real frustration during my early days on the Budget Committee, especially with some of the staff. The good outcome was that this stimulated me to use my business expertise to encourage and nudge the MAA to handle its finances more professionally. My experience included twenty years on the local (South Carolina) board of the Wachovia Bank.

What personalities have stood out in the mathematical community, both in the MAA and in the community at large?

In the AMS, John Ewing who was extremely helpful with IMO 2001. He was very professional and intuitively appreciated the importance of this event. He's been good wise counsel. He was on the fast dial button of my cell phone. There are others in the AMS who I respected, but John stands out as influential and helpful.

In the NCTM, there's John Harvey, a mathematics educator with whom I ran many huge projects. There's John Dossey, and Gail Burrill, who were both NCTM Presidents. Gail's the one who conned me into getting involved with IMO 2001. The people planning the IMO were floundering, and they realized that they needed a mathematician who could raise money. Then someone remembered what I done for the MAA during the building renovation crisis.

Thanks, John, for a very interesting interview.

It was a pleasure.