

GERALD J. PORTER

January 4, 2009 (interviewed by Kenneth A. Ross)

Jerry, when did you get interested in mathematics?

I have been interested in mathematics for as long as I can remember. After being in first grade for about a month, the teacher took me to the principal's office and asked me to write the numbers from 1 to 100. I assume I did this correctly because they then moved me to second grade. I always considered myself to be a problem solver, and I thought that I was good at mathematics. At Princeton, I considered majoring in other fields such as Economics but always came back to Mathematics.

Where did you grow up?

I grew up in Rahway, New Jersey. My maternal grandparents came to the U.S. from the Carpathian mountain region of Ruthenia and my paternal grandparents came from an area in the Ukraine just south of Kiev. They all emigrated to the U.S. in the early years of the twentieth century. Initially they lived in Brooklyn but moved to New Jersey about 1915. Rahway was predominately a working class town best known as the home of Merck & Co and a state prison (formerly a reformatory) which is actually not in Rahway.



Rahway prison

The high school in Rahway was not strong, but it was adequate. The majority of the students did not go on to college and many of those who did went to state teachers' colleges. A fellow classmate and I went to Princeton. I was undecided between Princeton and MIT but Princeton offered me a \$1000 a year scholarship. This was in 1954, and tuition was \$1000 per year. Since my parents were not wealthy, this made a major difference. Sometimes I wonder how my life would have been different if I had gone to MIT.

My class at Princeton was one of the last in which private school students outnumbered public school students. Most of my classmates were better

prepared than I. Socially, it was a tough environment for a Jewish kid from Rahway.

As a freshman I took the Honors Calculus course from Emil Artin. In the middle of the term, the counseling service asked me how I was doing because my SATs were lower than average for that class. Many of my fellow students had 800s on their tests. Artin was a very strong personality and was a demanding teacher but always a wonderful teacher. As a sophomore I had calculus first from John Milnor and then from Willie Feller. I absolutely loved Feller's course and that course convinced me to be a math major.

What did your parents do?

My parents were smart but their schooling was limited by economic circumstances. My father left school after sixth grade to work in his father's business. My mother graduated high school but her income was needed to support her family since her father died at about the same time. She had two sisters and a brother, but the brother was the only one who was able to attend college. He became a very well known economist and received the Nobel Prize in Economics in 1976.¹

My maternal grandmother ran a dry goods store in Rahway and my father owned a bunch of those machines where you put in a coin and get a handful of peanuts or candy. He had one of his machines at my grandmother's store and that is how my parents met.



They married in 1932 at the heart of the depression and together built a small wholesale grocery business. Since I always saw my mother working, the idea of women working was never strange to me.

How about siblings? Did they influence your mathematical development?

¹ Milton Friedman (1912-2006)

I have one brother who is four years younger. He was also a Princeton undergraduate, and he practices law in Princeton.

I see you got your Bachelor's Degree at Princeton and your Ph.D. at Cornell. How were those experiences?

The chair of the Princeton math department was Albert W. Tucker. He believed that there should be a gulf between undergraduate mathematics and graduate mathematics. For example, the algebraic topology course was “cut-and-paste topology” as opposed to homology theory. Typically, Princeton graduates were generally unprepared to be graduate students at Princeton. People like John Milnor were the exception. In my class there were only six math majors and Fred Richman was the only other one who went on to an academic career in mathematics. So, my undergraduate studies there didn't prepare me well for graduate school despite the fact that I had courses from faculty such as Steenrod and Helgason.

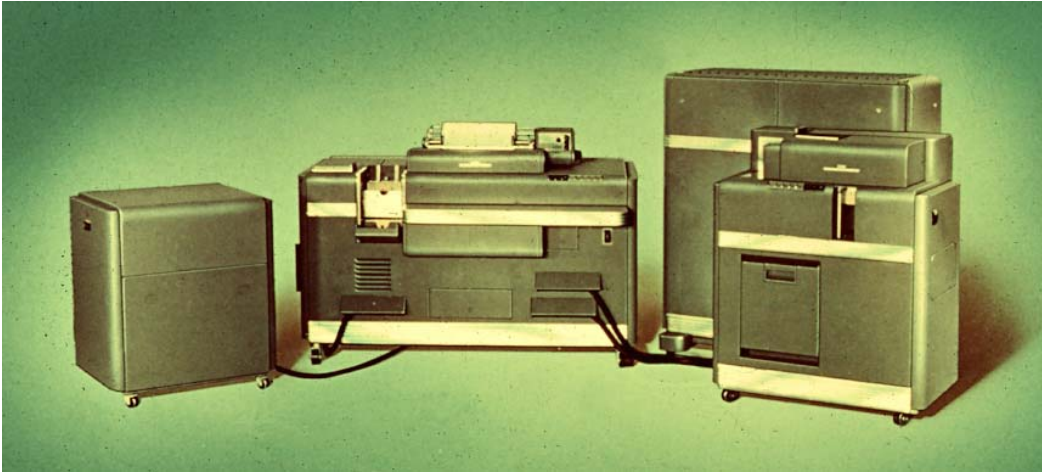
Between my sophomore and junior years at Princeton, I worked for an insurance company. This was supposedly training in actuarial science, but my job was to sort IBM cards. During that summer the company installed an IBM 650 computer and that got me interested in computers.



IBM Card Sorter

During my freshman and sophomore years at Princeton my student job was as a moving man, moving furniture and refrigerators. With my new found “expertise” in computing, I became responsible for night operations at the university computer at the Forrestal Center. The “state of the art” computing at Princeton at that time was a card programmed calculator consisting of an IBM accounting machine connected to a reproducing punch and a printer. This was located in an old greenhouse which, as you might expect, often overheated. Every job was

run three times, and if the answers agreed on two of the three runs they were pronounced correct.



Card programmed calculator

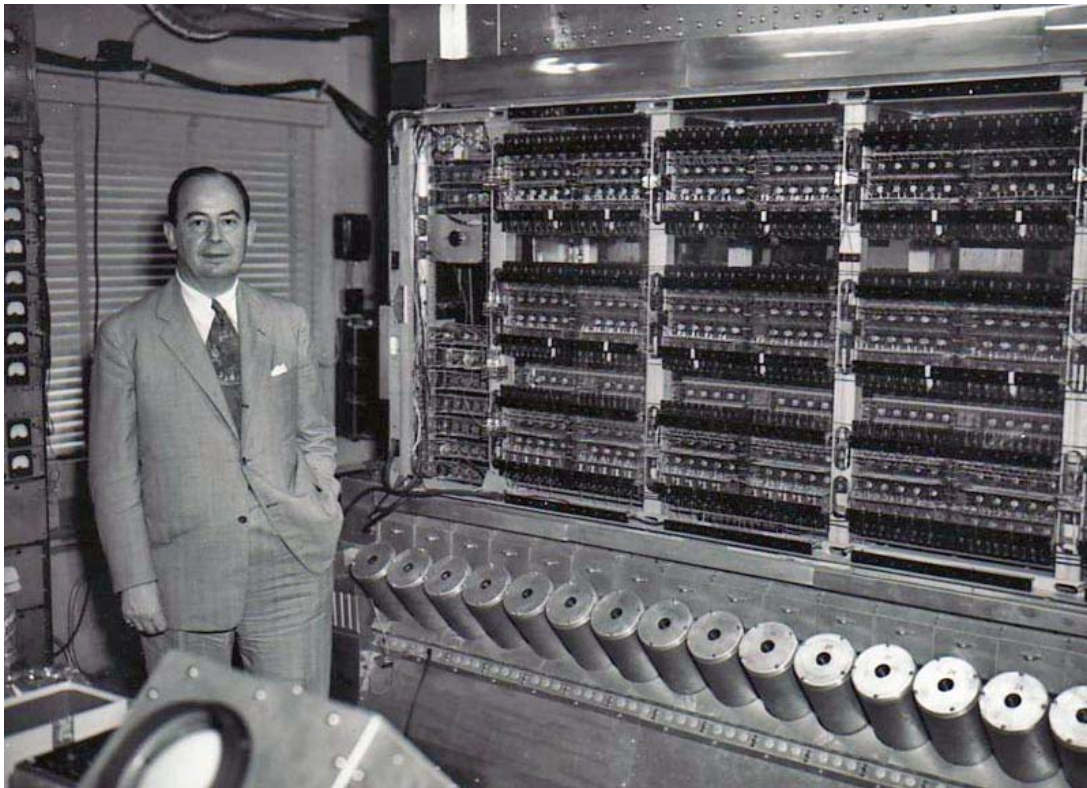
During my sophomore year I had taken a “design of experiments” course from John Tukey and a statistics course from Sam Wilkes. As a junior, I took a course in numerical analysis from Phil Wolfe and wrote a junior paper on numerical solutions of differential equations. Basically this was a theoretical paper on various quadrature formulas and their error terms. There was no facility, other than desk calculators, that could have permitted me to actually investigate the properties of the solutions.

Between my junior and senior years, I worked for IBM in New York City. The memory on the IBM 650 computer was a drum. Programs needed to be written that could minimize computation time by storing data in locations on the drum that could be delivered “just in time” rather than waiting for a drum revolution. My job, that summer, was to write trig subroutines that ran as quickly as possible on that computer.



The drum from an IBM 650

At Princeton, meanwhile, research computing had moved from the Forrestal Center to the original Von Neumann computer at the Institute for Advanced Study. I was responsible for evening operation of this computer. The memory for the Von Neumann computer consisted of 32 CRTs, each with a 32 by 32 grid of points (i.e., 1024 32 bit words). We monitored the CRT's on an oscilloscope. One had to do this constantly. If the program got into a very tight loop, it could burn out one bit in each of the CRTs. This would be a very expensive failure.



Von Neumann and "his" computer
The tin cans are the CRTs

As a senior, I enrolled in an introduction to mathematical economics course taught by Harold Kuhn. This course touched a bit on linear programming, game theory and the like. Kuhn was my senior thesis advisor and my thesis was an empirical test of several start-up algorithms for solving linear programming problems. This was done on the Institute machine. It may have been the first Princeton senior thesis that was done using a digital computer. The actual algorithm used to solve the linear programming problem was one due to Ford and Fulkerson. I have been told that my thesis was the first time that algorithm was programmed for a digital computer.

When it came down to choosing a graduate program I was initially undecided between pure and applied mathematics. Computer science did not exist in those days. If it had, I might have gone into computer science. I was accepted at both NYU (Courant) and Cornell. (I believe that a recommendation from Feller played

an important part in my being accepted at Cornell.) Eventually I decided that applied mathematics (as I perceived it at that moment) was too limiting a field and I chose to go to Cornell.

I was at Cornell from 1958 to 1963. Cornell was an ideal program for me. On the whole I was on a par with my fellow graduate students. In my first year, I was able to fill the gaps in my education with point set topology from Isaac Namioka, algebra from Herstein, linear algebra from Bob Heineman, and advanced calculus from R. P. Agnew. Of course, the best students were the Cornell undergraduates such as Barbara Osofsky. At the same time, I was a teaching assistant in courses taught by Mark Kac and Gil Hunt, both of whom were excellent mentors.

The next year I took algebraic topology with Roger Livesay. This was an axiomatic treatment from Eilenberg-Steenrod. I would have been totally lost in this class if I had not taken the "cut and paste" topology course at Princeton. That course gave me examples that I could use to understand the abstraction.

I notice that you worked with Bill Browder, with whom I enjoyed working when he was AMS President. Any further comments about your thesis work?

Yes. I was his first Ph.D. student. My thesis was on secondary Whitehead products. It led to a series of papers on what I called wedges of spheres. It is interesting that recently those papers have been discovered and are the basis of current work on Toric Topology with applications to robotics.

Peter Hilton, Israel Bernstein and Paul Olum were also important influences at Cornell at that time. After Cornell, I was an Instructor at M.I.T. for two years (1963-1965). MIT was a fantastic place for a young topologist to be. Frank Peterson, George Whitehead and Dan Kan were at the heart of a very active group of topologists.

I accepted a job at Penn (University of Pennsylvania) beginning in 1965 but my wife, Judy, needed to spend another year in Cambridge to finish her thesis at Harvard. As a result I applied for and received an ONR post-doc at Brandeis. Penn gave me a leave of absence for my first year.

Judy and I were lucky that we were both able to get academic jobs in the Philadelphia area, at Bryn Mawr and at Penn. We each spent over forty years on these faculties.

The Penn mathematics department under Hans Rademacher had been a very classically-oriented department. Oscar Goldman became the chair in 1962 and was given a mandate to change this focus. As a result, in the few years before I arrived, Dick Kadison, Gene Calabi, Albert Nijenhuis, Andrew Wallace and Peter

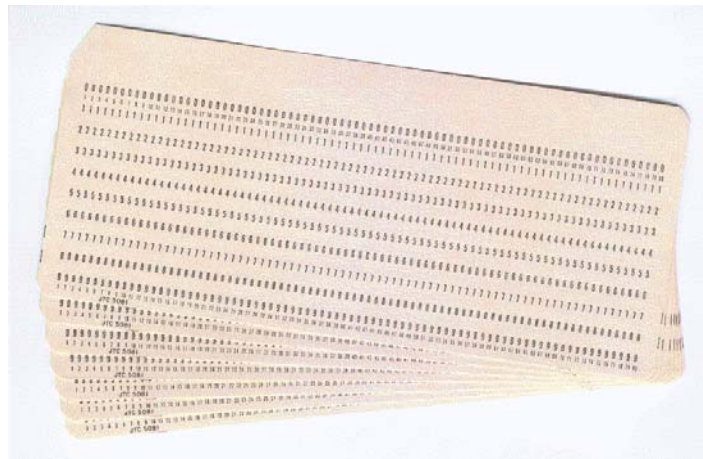
Freyd had been among those who joined the department. Herman Gluck and I both arrived in 1966.

You've been at Penn a long time. Tell me more.

I feel very fortunate to have been at Penn. I've had four or five careers here.

(1) In the beginning, I focused on my research.

(2) Between 1958 and 1966 I had no interaction with computers. At a party in 1966, Herb Wilf and I began speaking about using computers to help students learn calculus. That year we each began teaching "computer calculus." At that time, all University computing was done on a mainframe several blocks away from the math department. We set up a room in our building with IBM key punches. The students used Fortran which was punched on cards that were trucked to the computer center and run overnight. The output was delivered back the next day. This was a very time-consuming activity. If a student made a key punch error, he or she might have to submit a program several times before getting an answer. Each submission meant a 24-hour turnaround.



IBM Punch Cards



IBM Key Punch

Because of my use of computing, I became active, served on, and chaired University-wide and school-based computer committees.

In 1980, I became Associate Dean for Computing in the School of Arts and Sciences. When I assumed this position, the School had three labs of microcomputers (TRS80s and Commodore Pets) and spent about \$200,000 a year on research computing. Almost no one had access to email.

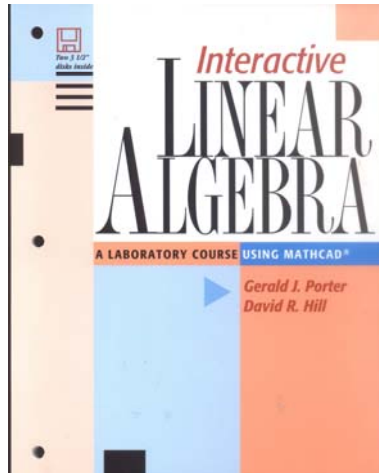
I continued in that position until 1990. These were very exciting years to be involved with computing. When I left the position, almost all faculty had a PC on their desk and used email. Research computing was done on a \$million plus supercomputer. Computer labs for students to use were located all over campus. This was a very satisfying period in my career.



IBM 3090 Supercomputer

(3) There is a parallel thread to my computing activities described above and my involvement in activities with regard to computing in the MAA. I discuss that later but in the 1990's the two came together, I had been running a project called the Interactive Mathematics Text Project for the MAA. This was funded by IBM and NSF to the tune of perhaps \$3 million. The aim of the project was to encourage

the use of computer-based interactive math texts. When I stopped being Associate Dean, I thought it was time for me to do what I had been encouraging others to do. Dave Hill at Temple and I submitted a proposal to FIPSE (Fund for the Improvement of Post-Secondary Education) for the creation of an interactive linear algebra text. The proposal was funded and we authored “Interactive Linear Algebra, A Laboratory Course using Mathcad.” This was published by Springer and, although it is currently out of print, can be downloaded from my web site. The idea was to use Active Learning to improve the learning of linear algebra and retention of that knowledge.



Dennis DeTurck was the Principal Investigator on a mathematics-across-the-curriculum project. When he became department chair he asked me to take over the project. One of the most difficult aspects of such proposals is dissemination. To deal with this, I created an online journal, the Journal of Mathematics and its Applications or JOMA. At some point I realized that this needed to grow beyond our project or else die. At that point the journal was taken over by the MAA and David Smith became the editor. For several years it was a part of MathDL. More recently it has been merged into the MAA publication Loci which is an important component of MathDL.

(4) Since 1992 I have been heavily involved with governance at Penn. From 1992 to 1995 I was Chair-Elect, Chair, and Past Chair of the Penn Faculty Senate. In 2001-2, I served a second term as Past Chair when the designated Past Chair resigned to become an administrator.

In 2000-01, I chaired a task force that considered the entire issue of privacy of personal information. The report of that task force led to the University ceasing to use social security numbers as student identifiers and eventually to Blue Cross stopping the practice as well. In addition, Penn became the first school to create the position of Chief Privacy Officer.

More recently, I've chaired the University's social responsibility advisory committee. This committee advises the trustees on the voting of social action

proxies. In particular, the work of this committee led to the trustees' decision not to invest in any companies that were related to the genocide in Darfur.

(5) I'm still busy on campus as an emeritus professor. This year I am the President of the Penn Association of Senior and Emeritus Faculty (PASEF). PASEF's goal is to enable emeritus faculty to maintain their intellectual and social connections with the University. To accomplish this, we hold luncheons and sponsor lectures. It is also our role to mentor our colleagues who are considering retirement.

In summary, it's been great to keep changing careers without changing jobs.

When were you first involved with MAA? Was this before you were active in EPADEL?

I joined both the AMS and MAA in 1959 as a Cornell departmental nominee. While at Cornell, as a graduate student, I was intrigued by the so-called ruler function which is discontinuous at the rationals and continuous at the irrationals. I wondered where, if anywhere, it was differentiable. This was a good problem for a new graduate student to solve and, when I did, I wrote it up and submitted it as a Classroom Note to the Monthly. It appeared in Volume 69 of the Monthly in 1962. This was my first "publication" and the first of four Classroom Notes that I published over the years.

On the wall next to my desk at home is the following quote from Kundera's "The Unbearable Lightness of Being."

"An individual transforms a fortuitous occurrence,,, into a motif, which then assumes a permanent position in the compositions of the individual's life"

That is the story of my involvement with the MAA. As an Assistant Professor at Penn, I was asked to teach a topology course at Swarthmore which did not at that time have a topologist on its faculty. The person who asked me was David Rosen who also happened to be the Governor representing the (then) Philadelphia Section (later EPADEL) of the MAA. That was the fortuitous occurrence that, in many ways, changed my life. Rosen invited me to become involved with the MAA. From 1975 to 1978, I served on the section's executive committee.



David Rosen at EPADEL's 75th Anniversary Celebration - 2001

Without the invitation to teach at Swarthmore, I doubt that I would have become active in the MAA. For better or worse, at that time the AMS was “the organization of choice” for the research universities while the MAA was focused on four-year colleges. It is interesting to note that this was a change from the period before the mid 1950's (see: Zitarelli: EPADEL, A Semisesquicentennial History, 1926-2000).

Tell me about your experiences in EPADEL.

During my term on the Executive Committee, Doris Schattschneider was elected Chairman. Under her leadership the Section Bylaws were revised, the name of the section was changed to the Eastern Pennsylvania and Delaware Section (EPADEL) and the title “Chairman” was replaced with “President.”

In 1979, I organized and spoke at an EPADEL meeting, held at Penn, on “Computer Graphics and Undergraduate Mathematics Instruction.” Jerry King from Lehigh was the MAA Governor and, at the conclusion of his term, I was nominated and elected to succeed him. His advice to me was to “keep a sharp eye on the national office”. My term as Governor was from 1980 to 1983. As Governor, I continued as an ex-officio member of the Executive Committee, a practice that was continued during all my years as a national officer of the MAA (Finance Committee/Treasurer). Over the years, I served on many nominating committees and program committees for the section. This includes organizing the Spring 1989 and 1998 meetings at Penn and helping with the 1993 Meeting at Villanova. These meetings were all focused on the use of computing in teaching undergraduate mathematics. In addition, I spoke at these and several other meetings. According to Zitarelli's EPADEL history, I gave a talk in 1980 on “The Future of the MAA.” Fortunately, neither I nor anyone else has a record of what I said, so my reputation as a prognosticator is unblemished by facts.

In 2000 I became the EPADEL webmaster and continued in that position for four or five years.

In general, I believe that sectional activity is a sine qua non for all MAA national officers. MAA policies need to reflect the needs of the individual MAA members, and there is no better way of understanding the needs of MAA members than being involved in the activities of a section.

It is easy to see how your interest in teaching, especially with computers, led you to the MAA. How did you get the interest and expertise that led to your MAA contributions in finance, ending up with being Treasurer (1992-2001)?

Actually the first committee that I was asked to serve on (and chair) was an ad hoc committee called, CRAMP – The Committee to Review Annual Meeting Programs. This was in the early 1980s. At that time, the AMS portion of the annual meeting began a day before the MAA portion and the MAA portion continued for a day after the AMS portion. Our committee recommended that the programs be concurrent and simultaneous and that is the way it is today. In addition, our committee recommended that the MAA have contributed paper sessions. Both of these recommendations were approved by the Board of Governors.

I wrote above about the fact that faculty members at research universities were expected to be active as AMS members and not as MAA members. The opposite was also true as there was a certain amount of “distrust” of research mathematicians involved in the MAA, as illustrated by the following anecdote. I remember having a meeting of CRAMP in the San Francisco Hilton during a break in a Board of Governors meeting. President Dorothy Bernstein saw the meeting and came over and, looking me up and down, demanded to know “How long have you been an MAA member, Porter?” It was obvious that she was afraid that research types were going to sully the MAA. I was, frankly, taken aback but quickly calculated and announced: “twenty years.” That was the end of the discussion.

I was on the Program Committee for the 1982 summer meeting in Toronto and served on the Committee on Meetings from 1986 to 1991 including being the chair in 1991.

Let me get back to your question about finances and such. I was always interested in investing and paid attention to the reports of the Investment Committee at the Board of Governors. As we all know, the easiest way to silence a person who asks too many questions is to put him (or her) on the Committee. (I think this is a case, as Gilbert and Sullivan put it, of letting “*the punishment fit the crime.*”) As my term as EPADEL Governor was coming to a close, Len Gillman asked me to join the Investment Committee. It was an interesting committee. I don’t remember all the members, but certainly Henry Alder and Harley Flanders were two of the other members. Anyone who knew

Henry and Harley knew that neither of them was a “shrinking violet.” The committee meetings could be a bit contentious, but there was never any doubt that the goal of the committee was to preserve and increase the MAA’s endowment. I served on the Investment Committee from 1983 to 2002 and chaired it from 1986 on.

Gillman was both a good friend and an MAA mentor to me as he had been to others.



Len and me at the 2002 annual meeting in San Diego

In 1984 I was asked to be a candidate for the MAA Audit and Budget Committee. I didn’t know who my opponent was but learned it was a woman by the name of Lida Barrett. I had no idea who she was and was disappointed when I discovered that she had been elected. The next position on the committee opened in 1986 when Gillman was elected President and Don Kreider became Treasurer. I was again nominated and this time was elected. Lida, Don and I worked well together and we made a point of attending as many committee meetings at the national meetings as was possible. Lida remains a good friend today and I count myself lucky to have worked with her.



Lida Barrett at MathFest 2001

It was often the case that when Lida and I would come to Washington for meetings, the finance staff at MAA was unprepared and we would spend a day or more trying to get things straightened out. The Finance Office at the MAA is today a professional operation. In general, previous Finance Directors at the MAA were not up to the job and much responsibility evolved on the Finance Committee. I hope that my efforts helped the MAA get to the point where we are today.

What accomplishments in the MAA are you especially proud of?

Well, first of all, as I mentioned above, I am proud of the fact that I, together with the many others who served on the Finance Committee, helped the MAA thrive and become financially well managed and stable.

But there are also many other things that I am proud that I helped accomplish. None of these are things that I can take full credit for. It was always the case that a small number of thoughtful committed individuals helped move the MAA in these directions. It is with this caveat that I mention the following:

I'm proud that I helped get the first African-American on the Board. That was Gloria Gilmer. The MAA has made an important commitment to diversity. SUMMA was an indication of this but we also worked hard to diversify our committees and leadership. A few years ago, Jackie Giles wrote an op ed for the Houston newspaper, Jewish Herald Voice, in which she credited me as being an important mentor for her in the MAA. I was humbled by her praise but equally appreciative.



Jackie Giles in 2002

The MAA believed we had to lead with our actions as well as our words. One step in this direction, in which I was involved, was the decision of the MAA to divest of its South African stocks. There were some Board members who believed that the MAA should not take political stands. It has always been my opinion that not taking a political stand **is** a political stand. As Elie Wiesel said in his Noble prize acceptance speech: *“We must take sides. Neutrality helps the oppressor, never the victim. Silence encourages the tormentor, never the tormented.”*

Over the years, I have consistently pressed for greater MAA use of the internet. I have served on several committees that dealt with this issue. In particular, I pushed for the first MAA Gopher and I believe that I am responsible for naming: “MAA Online.” More recently, I brought together a group of people who helped contribute to the Math DL project which was the successor to NSF grants that David Smith, Lang Moore and I had. Math DL lives on these days as LOCI (another name that I suggested).

While Al Willcox was the MAA Executive director, there was a suggestion that we abandon our Dupont Circle buildings and move to a location in Arlington. I was not alone in thinking that the Arlington location lacked the charm and location that we had in DC. Instead of moving to Arlington, we decided to renovate the Washington buildings. John Kenelly led a Building Fund Drive, and we maintained our Washington Headquarters. Today, with the renovation of the Carriage House to a conference center, we can look back at the wisdom of our decision; however at the time, the financial exigencies were significant.

In 1996 when the AMS made the decision to stop meeting with the MAA during the summers, the MAA had to decide whether or not to continue with summer meetings. This was a difficult decision for the MAA, since we had never run a national meeting without the administrative and financial assistance of the AMS

and since we faced a significant financial shortfall if our summer meeting was not successful. I worked with Don Van Osdol, who was the Associate Secretary at the time, to help plan the first MathFest. Today MathFest is a major MAA activity, but we knew we were taking a chance with the 1997 meeting.

As you've probably noticed, a leitmotif of computing is present in most parts of my career. I've already mentioned the MAA's expansion onto the web and my service as EPADEL webmaster. In 1983, Lynn Steen, who was then the MAA President, asked me to chair a new committee, the Committee on Computers in Mathematics Instruction – CCIME. Those were the days when microcomputers were first being introduced. I was active in this area as the Associate Dean for Computing in Penn's School of Arts and Sciences, and the MAA committee was a natural extension of this. In those days, CCIME's focus was on mini-courses and panel discussions about computing that were held at our national meetings. At one point, the MAA was approached by IBM to run a national program showing faculty how to use computer algebra systems in mathematics instruction. This was consistent with the movement toward "discovery-based learning." In particular, an interactive text using a computer algebra system (Maple, Mathematica, or MathCad) would provide the tools with which a student could explore mathematics. Learning would be an active experience rather than the passive experience of the lecture hall.

My background as chair of CCIME, MAA Treasurer, and Associate Dean at Penn positioned me as an ideal person to take a leadership role in this endeavor. Jim White and I received the IBM grant together with several NSF grants for the Interactive Mathematics Text Project (IMTP). During the course of the grant, we established four computer labs throughout the country and ran twenty or so workshops for each of five years. The workshops taught people about active learning and gave them the skills they needed to author interactive texts. Several of our "students" have gone on to assume leadership roles in this area. My recollection is that the MAA received about \$3 million dollars to support this program.



Jim White in 2001

The IMTP was a professional development activity. I noticed that the MAA had a Committee on Professional Development, but that Committee did little more than say that Professional Development was a good thing and people should do it. In 1995, I became the chair of this committee and moved it in a new direction, namely, to develop MAA professional development programs. Bill Haver, Jon Scott and Tina Straley were very active in helping formulate the ideas for the MAA Prep program and the workshop for departmental chairs. In addition, Barbara Osofsky helped develop the MAA short courses that we have today. We have made tremendous progress in building these resources for our members. However, I am disappointed that many who would have benefited most from these programs are unable to participate. We needed, and still need, distance learning programs for those unable to travel to workshops.

Another disappointment involved our efforts to get graduate students to become members of MAA. Today's graduate students are the faculty of tomorrow and it is important that the MAA make them aware of the Association and the benefits of Association membership while they are still in graduate school. This is difficult to do because, as I noted earlier, the AMS is viewed as the organization of choice by most faculty at research universities. As an indication of the problem we face, in 1997, at the Atlanta meeting, we decided to randomly contact mathematics departments for lists of graduate students to whom we could give free MAA memberships. We contacted a number of departments but received no response. This is an important issue on which we must continue to work.

I mentioned above that I served on the Membership Committee from 1994 until recently. I also served on the Strategic Planning Task Force on Membership. Hopefully the recommendations of those groups will be adopted and will help the MAA as it nears its centennial. In particular, two recommendations of those groups were (1) electronic delivery of journals and (2) a greater international presence. (Of course these are coupled in an obvious way.)

I am pleased that my wife Judy and I are able to sponsor public lectures, starting with one at the 2010 annual meeting in San Francisco. Outreach is an important mission of the MAA and we hope that the public lecture will help the MAA reach the community in the major metropolitan areas where we meet each January.

What is your best memory of your work in the MAA? your worst?

Best: The most important thing to me has been the number of good friends that I developed over the years through the MAA. I still attend national meetings but not for the mathematics as much as for the opportunity to see old and dear friends. I dare not list them all here since I will surely leave someone out but they know who they are. In a broad sense, the MAA is my extended family. Whatever efforts I have expended over the years have been paid back many times over by these friendships.

Worse: As Treasurer, I had to work closely with the MAA Finance Office. At various times this office became dysfunctional. This made it extremely difficult for me to do my work as Treasurer.

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

As a member of the Board of Governors and as Treasurer, I have had the opportunity to work closely with a number of MAA Presidents including: Lynn Steen, Len Gillman, Lida Barrett, Debbie Haimo, Don Kreider, Ken Ross, Jerry Alexanderson, Tom Banchoff and Ann Watkins. Each of these “governed” in their own way, but each was absolutely dedicated to advancing the goals of the MAA. A similar statement is true of the Executive Directors I have worked with: Al Willcox, Marcia Sward and Tina Straley. As I think about it, I realize that I can easily add another twenty or thirty people to this list and even then will have forgotten some. So let me end the list by mentioning Martha Siegel and John Kenelly both of whom have been tireless in their efforts for the MAA.

I mentioned above the great value I have gotten from the MAA through the friendships I developed. I would like to add that I have also benefitted enormously by having my horizon significantly broadened, from Penn and EPADEL to the national scene.

Thanks, Jerry, for a very pleasant conversation. Your trajectory through the MAA world is very interesting.