RICHARD GIBBS
October, 2008, in Salt Lake City
(interviewed by Kenneth A. Ross)

When did you get interested in mathematics? What were the circumstances?

My granddad, who was a merchant and ran a grocery store, was the first influence. He would give me problems and so would my father, especially when we were driving from where we lived in Midland, Michigan, to the Lake Michigan coast where my grandfather lived.

I was blessed with good math teachers from the 8th grade on. As far as I can recall, they were all men. When I was in 8th grade, I wanted to be an 8th grade teacher, when I was in 9th grade, I wanted to be a 9th grade teacher, etc. My desire was always to teach, and since I was best at math, I wanted to be a math teacher. I ended up being a college teacher because it was easier than going through the education requirements for teaching high school.

Where did you go to school?

I was an undergraduate at Notre Dame for three years. Then I switched to Michigan State University for my senior year, and I stayed on for my Ph.D. My thesis advisor was J. Sutherland Frame, who was an excellent teacher and a "matrix magician." He was a good advisor, though I had to search him out and, if I wasn't making much progress, it was easy to avoid him. I was interested in graph theory after taking a fine course by Ed Nordhaus. Frame was primarily interested in matrix theory, but the two areas have a significant overlap so Frame and I were able to work out a good program.

I earned my Ph.D. in 1970 and received several job offers. I accepted a position at Hiram Scott College in Scottsbluff, Nebraska. This was a challenging teaching job, because this school specialized in students who had been turned down elsewhere, many of whom were from the east. They even started their "school year" a couple of weeks late to accommodate late students. During the year we learned that the school was about to fold. I stayed optimistic, but

finally realized that I should look for another job. That was 1971 and that's when I took a job at Fort Lewis College in Durango, Colorado.

Did your apparent life-long interest in problem solving come from your interaction with Professor Frame?

Only incidentally. At some point when I was a graduate student, I was given a free MAA membership. A problem posed in Mathematics Magazine grabbed my attention, and I got hooked on solving problems in the various MAA journals. In particular, I solved one problem and my solution was published; the poser later became infamous: Ted Kaczynski. The problem was about match sticks in a grid; see the appendix to this interview.

Here's another problem solving activity that I was involved with. I wrote a Sunday "Puzzle Corner" column for our local Durango Herald between January 1982 and June 2006 (there was a gap of a few months when I stopped writing it, then started again). In all there were 1000 puzzles -- that seemed a good number to end with, although some thought I should continue to 1024! I was motivated to write this column by Lee Younker, a high school math teacher in the Chicago suburbs who, at an NCTM meeting that I attended in 1980 or 1981, talked about doing a similar thing.

How did you come to be so heavily involved with AMC?

Steve Maurer, chair of CAMC in the mid-1980s, noted my interest in problems and invited me to be a panelist about 1985. Then in 1987 I was asked to be on the AHSME committee. At this point, Leo Schneider was chair of both CAMC and AHSME. After his six-year term, Leo stepped down and they split the jobs. I became chair of CAMC and served 1993-2002. During this period, I was also co-editor of the problem department of School Science and Mathematics, a publication of SSMA = School Science and Mathematics Association. This was during 1985-1998 and my co-editor was my colleague Laszlo Szuecs.

At the end of my second three-year term, there were some questions regarding the structure of the CAMC and the position of Executive Director of the AMC. Tina Straley was the new MAA Executive

Director, and Walter Mientka had stepped down as AMC Director to become Executive Director of IMO 2001 USA. So I agreed to chair the CAMC for another term. Tina was working to structure the CAMC so that it was more clearly seen to be a program of the MAA, with voting members appointed by the MAA. Previously, representatives of the other sponsors constituted a majority of the CAMC. Also, there was some question whether Walter was going to return as Executive Director of the AMC after the IMO.

How was it working with Walter Mientka and others?

I have great affection and admiration for Walter and I feel honored to have had the opportunity to work with him. It was quite an experience! Walter was always fighting for more autonomy for the AMC and consequently rubbed some of the people in the MAA the wrong way. But I always thought we got along just fine.

I was also greatly impressed with Leo Schneider. He has an amazing capacity for hard work and was very efficient. The same is true of his predecessor, Steve Maurer.

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

The most enjoyable experiences were the USAMO Awards Ceremonies in Washington and serving as the MC for the receptions before-hand at the MAA Headquarters.

An enjoyable outgrowth of work in the MAA has been the Colorado Mathematics Awards program that started up in 1996. I am co-chair of the organizing committee with Dr. David Carlson, who is now retired from the Colorado Department of Agriculture. Every year we recognize outstanding mathematics students from 8th grade through high school, based on their performances on AMC exams. In addition, we honor top collegiate performers on the Putnam Exams and on the MCM (Mathematical Contest in Modeling).

Tell me about your involvement in the Rocky Mountain section.

I've been fairly active in the section. I served as chair of the section in 1988-1989. In 2002 I was "honored to receive" the section's MAA Certificate of Meritorious Service.

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

I've already mentioned Walter Mientka and J. S. Frame. Another was Paul Erdos. A group of us from Fort Lewis College met Paul Erdos at the joint winter meetings in Dallas in 1973. At the meeting, I approached him to ask whether he'd consider visiting Durango. He knew about Mesa Verde, so he arranged to visit Durango while traveling from Boulder, Colorado, to UCLA. He wanted to visit Mesa Verde, and I asked for volunteers to go with him. No one was available, so I had the pleasure of spending the entire day with him alone. It was quite a day. I was really afraid for him, climbing dangerously in those notorious sandals of his just to get a better view down some canyon! And I remember asking him, when we were having lunch, if he took many vacations. He said that he took a couple of weeks off a few years earlier, but never again because he found it too depressing.

APPENDIX

A Match Stick Problem, Mathematics Magazine, **44** (Jan-Feb) 1971, problem 787 on page 41. Proposed by T. J. Kaczynski, Lombard, Illinois.

Suppose we have a supply of matches of unit length.   Let there be given a square sheet of cardboard, n units on a side. Let the sheet be divided by lines into n^2 little squares. The problem is to place matches on the cardboard in such a way that: a) each match covers a side of one of the little squares, and b) each of the little squares has exactly two of its sides covered by matches. (Matches are not allowed to be placed on the edge of the cardboard.) For what values of n does the problem have a solution?

Two solutions were published in Mathematics Magazine **44** (Nov-Dec) 1971, page 294. Richard A. Gibbs solved the problem invoking Pick's theorem. Richard L. Breisch solved an m by n generalization.