

Preface

This issue is dedicated to the memory of a delightful person, a wonderful mathematician, and a good friend. Marc Kac, born on August 16, 1914, died on October 25, 1984, was all these things to (almost) all who contributed to this volume and to many, many more who knew him and cherished him. Marc's company was ebullient on happy occasions and supportive on sad ones. You could always count on him to join wholeheartedly in a celebration or in a relief effort: he was indeed a man for all seasons.

There are many Marc Kac stories worth repeating. One of my favorites is an exchange that took place after a seminar given by Marc at Caltech. Richard Feynman, who likes to make a show of his ability to bypass the formal mathematical stuff in arriving at an understanding of the physical world (wouldn't we all like to have this ability?), said: "Marc, if mathematics had not been invented, it would have taken physicists no more than an extra week to get where they are now." To this Marc responded on the spot: "Yes, the one week it took the good Lord to create the world." This story gives an idea of Marc's ready wit. It also explains the great variety of contributions in this volume encompassing both mathematics and physics.

To find out more about Marc I strongly recommend a reading of his autobiography, *The Enigmas of Chance* (Harper and Row, New York, 1985) and the interview by Mitchell Feigenbaum with Marc Kac and Stan Ulam, the two "Polish Masters," which appeared in the June 1985 (volume 39, number 5/6) issue of this journal. That article was reprinted from the Fall 1982 issue of *Los Alamos Science*, which was also the source of the photographs—with thanks to Nicki Cooper.

My personal association with Marc lasted for thirty years. I first met him when he gave a physics colloquium at Syracuse University in 1953 on the spherical model—a caricature of the Ising model—which he and Ted Berlin developed. I had just begun my graduate studies and this was the first time, I believe, that I had heard of the Ising model. I can still remember how he described Onsager's solution as, "he threw at it all the

machinery and the problem collapsed.” I last saw him at the 1984 annual meeting of the Committee of Concerned Scientists, which we cochaired.

Marc’s death was and is felt heavily by all who knew him and there have been many gatherings to commemorate his memory. In addition, the Nonlinear Center at Los Alamos has established an annual lectureship, which I was honored to present this year, and the Committee of Concerned Scientists has established a special fund in his name to which all are invited to contribute.

I hope that this volume, too, will help us remember him.

Joel L. Lebowitz