

Book Review

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Indiscrete Thoughts

Gian-Carlo Rota, Birkhauser, Boston, 1997, 296 pp., \$36.50, ISBN 0-8176-3866-0

Many readers of this journal might be wondering, "Who is Gian-Carlo Rota and does his book—the title perhaps spelled incorrectly—have anything to do with guidance, control or dynamics?" A Rota-style answer would be everything and nothing. Although mathematicians will probably get the most pleasure from reading it, scientists and engineers will also enjoy reading this thoroughly entertaining series of essays on many topics.

The text is divided into three parts. In Part I, *Persons and Places*, Rota describes such greats as Lefschetz, Gibbs, and Ulam—people he actually knew, but to many of us just names in a textbook. These accounts are by no means sanitized as shown by his first sentence on Lefschetz: "No one who talked to Lefschetz failed to be struck by his rudeness." How can you not enjoy a book in which one of the chapters is subtitled: *The Story of a Ménage à Trois*? Perhaps his fondest memories are of Stanislaw Ulam because the only picture included is that of Ulam posing with Rota in Santa Fe, 1974. Rota talks about Ulam's brilliance, his feud with Teller (who didn't?), and such tidbits as the patent application signed by Ulam and Teller for the H-bomb. He freely admits that Ulam was "proverbially lazy." No wonder Mrs. Ulam crossed Rota's name off of her Rolodex. You've got to admire a man who is willing to go on record and write about Ulam being "in the middle of an asphalt jungle (referring to the University of Southern California) teaching calculus to morons." I've heard quite a few professors say such things in private about students in their respective universities but none admit it publicly.

Part II of the book is entitled, *Philosophy: A Minority View*. Here he talks mostly about phenomenology and apparently hated analytic philosophy with a passion. It is worth noting that the late (1932–1999) Gian-Carlo Rota was the only professor at MIT to hold the title of Professor of Applied Mathematics and Philosophy. An interesting anecdote is described in one of the forewords to this book (there are two forewords, an introduction, and an epilogue!). In the first foreword, Reuben Hersh describes how MIT philosophers threatened to quit en masse if Rota's students in his phenomenology class were given philosophy credit. The President of MIT told them, "Go ahead, that will help my budget." The professors didn't quit and the students got philosophy credit. Part II of the book also describes, among other things, the phenomenology of mathematical beauty, mathematical proofs, and truths.

If philosophy is not your thing, then Part III of the book, *Indiscrete Thoughts*, is bound to be a delight. The first chapter of this part of the book is entitled; *Ten Lessons I Wish I had been Taught*. I wonder what Prof. Rota would

have told me if I had asked him the questions: how come 10 lessons? Why not 9 or 11 or 14? These are wonderful lessons delivered by Rota on the occasion of the Rotafest at MIT on 20 April 1996. By Rota's own description, they are numbered in increasing order of controversy. I was glad to see Rota state emphatically in Lesson Number 1 that every lecture should make one main point. Also in this lesson, Rota writes, "Never run overtime . . . one minute of overtime can destroy the best of the lectures." This is perhaps mildly controversial as I recommend going a step further (as I've personally done) and dismissing the class ahead of time if the main point is covered. There are some who think they've earned their paychecks by running overtime and preventing students from going to the next class on time. I hadn't realized that the subjects they teach are far more important than mine. I'm sure there are quite a few in academia who secretly will find another one of Rota's lessons, Lesson Number 3, "Publish the same result several times," not controversial at all.

The next two chapters of Part III are *Ten Lessons* (there he goes again) for the Survival of a Mathematics Department and *A Mathematician's Gossip*. They may be viewed as ten lessons for the survival of an Aero-Astro Department or, for that matter, any other department. The chapter *A Mathematician's Gossip* is a lot of fun to read. The following is an excerpt:

It used to be called the calculus of variations and everybody thought it was dull as night. Now it is called optimization theory, and everybody thinks it's red hot.

Graph theory, like lattice theory, is the whipping boy of mathematicians in the need of concealing their feelings of insecurity.

The last chapter is *Book Reviews*. I wonder what Rota would have said of a book review of a chapter on book reviews. The last line is worthy of Clark Gable. Rota's entire review of J. Passmore's work, *Recent Philosophers* reads, "When pygmies cast such long shadows, it must be late in the day."

I recently read a portion of the citation on Rota's award for faculty achievement. It describes him as being a " . . . leading innovator and theorist in the transformation of combinatorics from a disparate collection of facts and techniques unworthy of serious mathematical consideration into an active, systematic and profound branch of modern pure and applied mathematics." I have never seen such flair in an AIAA citation. I end this book review with the first line of the first foreword to this book: "If you're about to buy this book you're in for a treat."

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