for users of clinics or mandate offering coverage, says Lynne Lawrence, director of government relations for the American Fertility Society.

"We're all paying for [these procedures], just like we're paying for heart transplants for 85-year-olds," says Dr. McShane. "Some may be asking, is that what we want to do with our limited resources?"

US congressional hearings two years ago found that some clinics misrepresented their credentials and inflated success rates. The American Fertility Society this March started publishing clinic-specific success, or "take-home baby," rates for 178 IVF clinics.

The supply of fertility clinics is greater than the demand for them, says McShane. Some observers say that puts operators in the ethically uneasy position of having to decide whether or not to encourage clients whose chances of successful conception are deemed slim to participate in the programs.

"The new technology has far outstripped the capacity of regulators to provide even minimum regulations," says Rep. Ron Wyden (D) of Oregon, who is sponsoring legislation that would mandate regulation of the industry. "You have desperate people who will do virtually anything to have a baby. It's a fertile opportunity for someone who wants to rip off the public."

For McShane, the hard thing is persuading couples for whom the procedures aren't working to finally give up trying.

"Now they try to figure out a technological end run for every problem," she says.

Moving Story of a Mathematical Magician

By Simson L. Garfinkel

IN January 1913, G. H. Hardy, a prominent mathematician at Trinity College, Cambridge, England, received a 14-page handwritten letter in which the author claimed to have solved a basic problem of number theory that had been haunting mathematics for more than 100 years. The postmark was Madras, India; the author, a certain Srinivasa Ramanujan Iyengar, was a 25-year-old Indian who had dropped out of college.

Was Ramanujan a crank or a genius?

Hardy couldn't tell: Ramanujan's nine pages of mathematics showed great insight, but he showed no proofs for his claims – no way for Hardy to verify if Ramanujan's theorems were true or not.

But the letter sparked Hardy's interest: While perhaps a third of the mathematics was merely reinvention of work done during the previous 50 years, and another third was just plain wrong, the last third was unlike anything Hardy had ever seen before.

Hardy finally concluded that the Indian's theorems "must be true because, if they were not true, no one would have the imagination to invent them."

Within months, Ramanujan traveled to England and spent the next several years working at Hardy's side, blossoming into one of the greatest mathematicians of all time. Seven years later, after a long struggle with illness, he died.

"The Man Who Knew Infinity" is Robert Kanigel's synthesis of the many accounts that have been written about Ramanujan's life. In painstaking detail, Kanigel describes the social and intellectual settings in which both Ramanujan and Hardy grew up, worlds apart, and how it was that they came together in England for one of the most fruitful collaborations in the history of science.

Chapter by chapter, Kanigel tells of Ramanujan's Brahman upbringing in Madras, the story of an impoverished family of the highest Indian caste. One day, the young Ramanujan discovers a book on advanced math, really nothing more than a set of crib notes for the dreaded British Tripos examination. More interested by mathematics than his schoolwork, Ramanujan drops out of college in India and spends the next five years unemployed, developing his own branch of mathematics.

"There was nothing 'wrong' in what Ramanujan did; it was just *weird,*" writes Kanigel. "Ramanujan was not in contact with other mathematicians. He hadn't read last month's 'Proceedings of the London Mathematical Society.' He was not a member of the mathematical community. So that today, scholars citing his work must invariably say, 'In Ramanujan's notation,' or 'Expressing Ramanujan's idea in standard notation,' or use similar language."

As a result, when at last Ramanujan sought the company of other Indian mathematicians, just as with Hardy's experience, no one could tell if Ramanujan was a genius or a madman.

"The Man Who Knew Infinity" tells of the plight of unrecognized genius. But it also dispels the notion, commonly presented in high school geometry classes, that all of mathematics is a logical progression of ideas in which A and B straightforwardly lead to C.

Kanigel shows that mathematicians are human – people who may have magical inspiration but, nevertheless, pursue false leads and make mistakes. In so doing, he goes out of his way to make "The Man Who Knew Infinity" accessible to the mathematically naive; it is a book as much about prewar English academia as it is about Ramanujan's infinite series, from which the book takes its name.

For the mathematically thirsty, the human drama may come as something of a letdown. Details of the mathematicians' personal lives are far more forthcoming than accounts of their craft and science. But for the reader who has never heard of Ramanujan, this story of romance with mathematics makes for lively reading, albeit with a heartbreaking end.

■ *Simson L. Garfinkel is a freelance writer who specializes in science reporting.*

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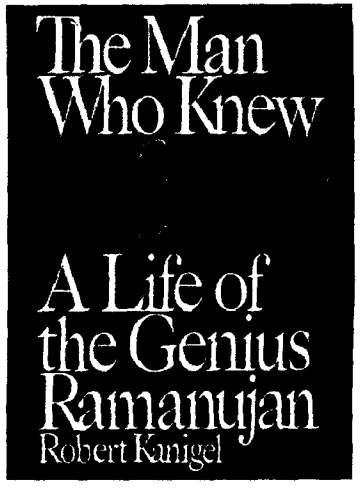

THE MAN WHO KNEW INFINITY: A LIFE OF THE GENIUS RAMANUJAN
Robert Kanigel
Charles Scribner's Sons
438 pp., $27.95