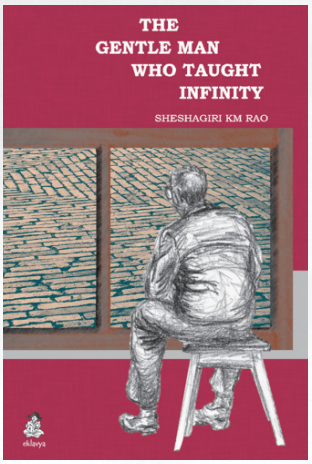
The Gentle Man Who Taught Infinity

by Sheshagiri KM Rao

Reviewed by Sneha Titus



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Rarely has a book so perfectly matched its title. *The Gentle Man Who Taught Infinity* by Sheshagiri KM Rao is one such and what a gentle read it was! Written as a tribute to the mathematics teacher who influenced his life, Sheshagiri Rao has managed to show us with his account just how far reaching a teacher's influence can be and how this teacher did it, not commandingly or overtly or even intentionally but with his sheer love for the subject he taught and his innate respect for the students he taught.

The narrative is set in Bangalore, the pitch is set right from the start with a description of the city that the author grew up in, a far cry from the bustling metropolis it is now. Sheshagiri Rao's childhood memories will certainly strike a chord with readers who grew up in the sixties and seventies – of going by cycle rickshaw to school, of climbing trees at play during the long evenings at home, of booking 'trunk calls' and of the fascination with 'church-run schools' with their emphasis on education in English. Which eventually took the author to Baldwin Boys School where, in the eighth grade, he encountered the chief protagonist of this book, his mathematics teacher Mr. Channakeshava.

The teacher, his craft and his subject – these have been the recurring themes of many a teacher education program. In this book, which I would recommend as illustrative reading for anyone teaching or taking these courses, the author explains how, in the person and the practice of his math teacher, these

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three were entwined. In almost every anecdote, these emerge inseparably and subtly. Clearly, they produced a deep and lasting impression on the student, strongly evident in the incidents he reports in his own teaching career.

Much has been said about first impressions – often they are linked to meeting dashing and flamboyant characters. For a student to remember his first mathematics class in standard 7 for over thirty years, one would expect that his teacher was one such. And yet, the very gentleness of 'Channa' as his students affectionately called him, is what is emphasized in his very first class. That, and his lesson which though a simple exercise in multiplication, revealed beautiful patterns in mathematics and hooked his students to the subject in a way that revision, practice and even good marks couldn't do so far. *'I'd never seen beauty in mathematics until then, even in my wildest dreams. What happened in the period that day was quite astonishing even as it was fun.'* And almost immediately, the author talks about the roadblocks which he himself or others would have put in the way of such an approach – the inevitable chorus of lack of time and the need to complete the syllabus. Among his many arguments for such an approach, the following would be the most persuasive……. *'With Channa, the teaching was clear and cogent. Maths learning was almost effortless because we began to see things with more clarity.'*

The more sceptical reader may then question how such an unusual teacher could thrive in a conventional school. Remember that this book is set in the 1970s, a time when schools thrived on rules, discipline, and corporal punishment and when good marks were the single benchmark of excellence. (What has changed, the cynic may say, but let's be optimistic.) Rao makes it clear that the explorations that the class embarked on were sandwiched between more conventional classes. What remained, however, was the excitement that mathematics could bring.

At the beginning of the book, Rao makes the claim that he has tried to keep the maths simple. Having seen this in many books about math, I was a little cynical but he has managed to do this. Again, I see Channa's influence; he explains almost everything from first principles and in the Additional Notes arranged chapter-wise at the back of the book, there is detailed information on the mathematical topics mentioned in each chapter. Even better, the author has catered to the more serious reader by providing a list of books for those who want to delve deeper.

As a student, the author was exposed to many famous problems which are not in any school level syllabus. In the same gentle manner in which he was taught, he describes mathematical celebrities such as the Bridges of Konigsberg, the Four Colour Problem, the Barber's Paradox and Fermat's Last Theorem. Having encountered these only much after I left school, I can only envy the students whose teacher shared his own joy in the subject with mathematical story telling. Small wonder that he was remembered long after they graduated.

At the end of the book, the author describes Mr. Channakeshava's life and how his various struggles and responsibilities kept him anchored to his job at Baldwin Boys. He stresses on the point that nothing can stop the genuine learner – and here, we can learn by example. Not only was Channa constantly trying new and different problems, he was also an avid reader of a wide variety of books in a wide variety of languages. For those who want a slice of the problem pie, the section 'Whet thy appetite: Channa's 20' is a delightful appendix of twenty of Channa's chosen problems which he solved over the years and whose solutions he regularly submitted to a variety of math magazines and journals.

Skill building is in nowadays; from Rao's book, one begins to see that even in the seventies, Channa realised the importance of this. The author touches on an approach advocated by his own father when he found a topic difficult –

'gudipaatam', he calls it – we know it variously as 'mugging', 'learning by heart' and 'parroting'. Though not overtly stated, it is clear from various incidents that Channa was a teacher for whom content came second to skills. Using stories, sketches, arguments and even the drama of the QED which he appended to each successful proof, he taught his students the skills of visualization, representation, logical reasoning and mathematical communication.

There is a beautiful section on the need for proof and the difference between a proof and a demonstration. Clearly, the author has connected the nature of mathematics to his teacher's craft. Only one exposed to the pedagogy of mathematics could do so, but what stands out is that Channa made a lasting impression on many, many students. The author has taken the trouble to contact many of his school fellows, their memories of Channa are shared in the book. Including the opinions of a variety of students who went on to varied careers and who spoke from different perspectives certainly served to prove his point.

The book does tend to meander a bit and some themes are revisited through the lens of different incidents. But this is perhaps necessary to pencil in a more detailed picture of the beloved teacher.

In the Author's Note, Rao says that this book was written – among others – for parents who struggled with mathematics as students and who are now in the difficult position of prescribing a medicine which they themselves found difficult to swallow. Certainly, there are many readers who will identify with parental anxiety, expectations of the student and of the school and the reassurance extended by a benevolent teacher. *Mathematics is full of such curiosities, which can be studied by just about anyone* was one of Channa's quotes and the author goes on to say that everybody has the seeds of mathematical ability, they just need to be nurtured. Which is what Channa did for his students.

Rao says that this book was driven by both hope and anger at the way schools let down their students. Various aspects of Channa, the man, are described in the book. All of them factor in to Channa, the teacher – his immaculate brown suit, his gentlemanly ways, his sense of duty to his family, his steadfastness in protecting his values. Whether it is in describing how he used blackboard space or maintained discipline without resorting to the rod or remained both aloof and familiar outside the classroom, Rao manages to draw for us the picture of the Gentle Man who Taught Infinity, leaving us with the hope that as long as there are teachers like Mr. Channakeshava, schools would benefit and not harm students.

SNEHA TITUS is Asst. Professor at the School of Continuing Education and University Resource Centre, Azim Premji University. Sharing the beauty, logic and relevance of mathematics is her passion. Sneha mentors mathematics teachers from rural and city schools and conducts workshops in which she focusses on skill development through problem solving as well as pedagogical strategies used in teaching mathematics. She may be contacted at sneha.titus@azimpremjifoundation.org.